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APPENDIX

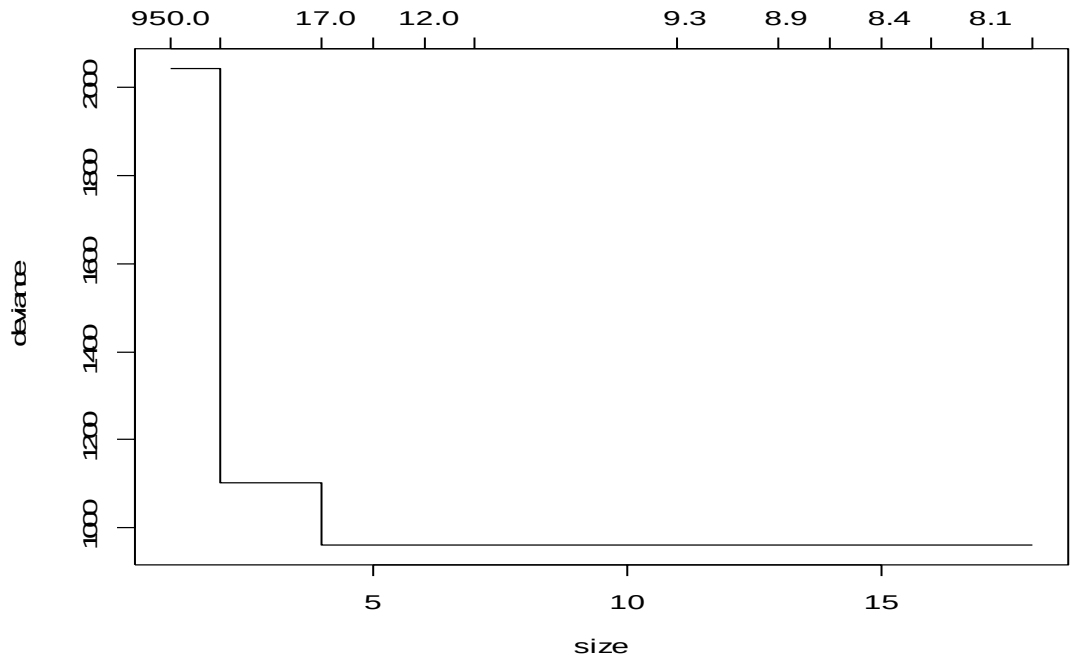


Fig.1 Cross Validation Deviance Plot

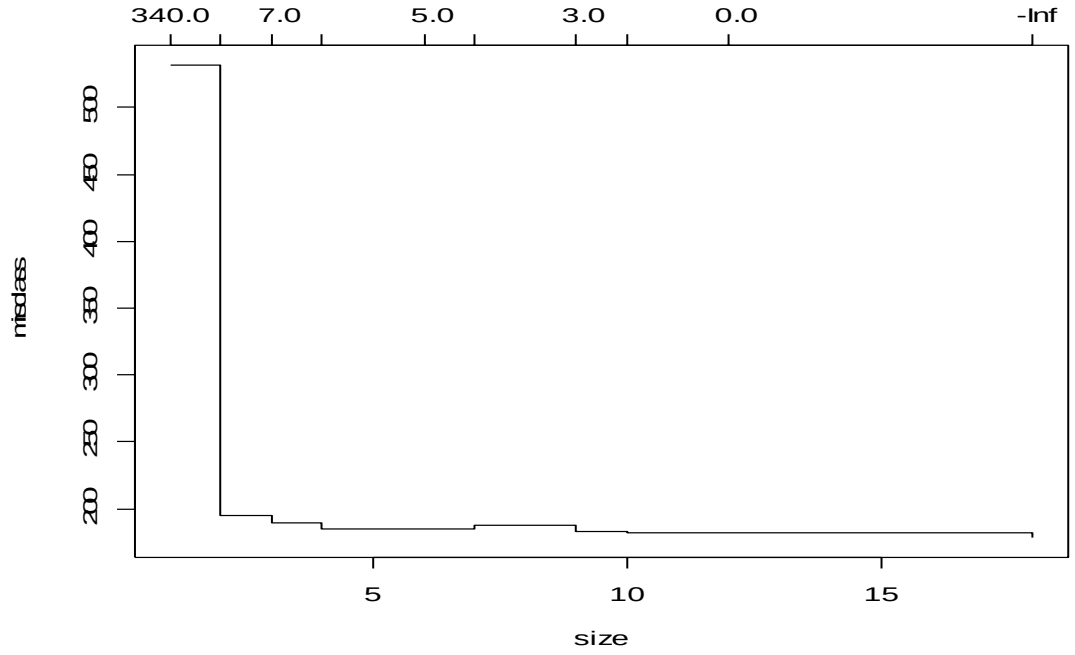


Fig.2 Cross Validation Misclassification Plot

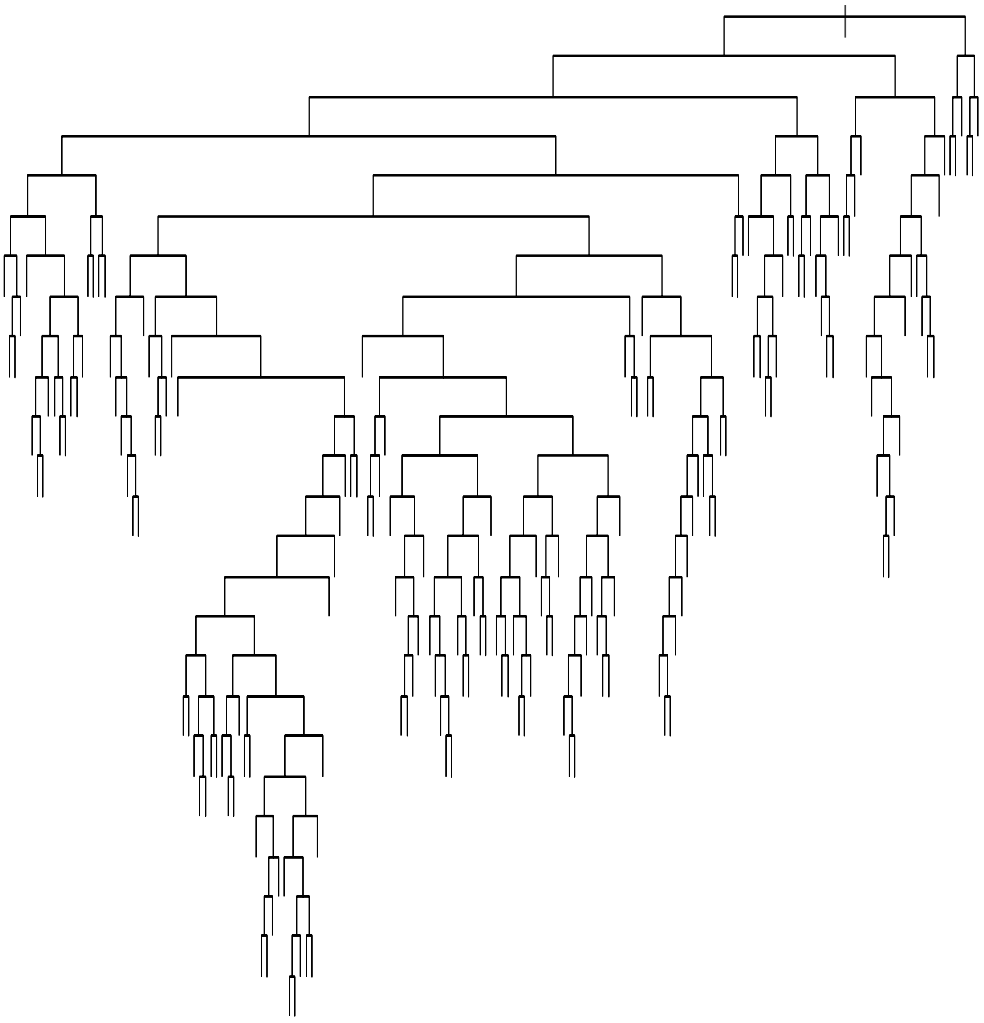


Fig.3. Plot of Full Tree without Text, All Patients, All Variables and Any Recurrence

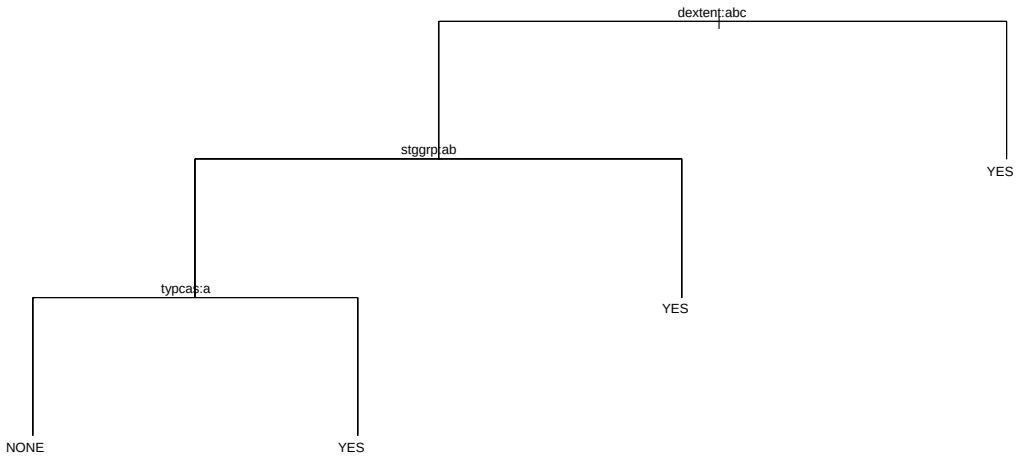


Fig.4. Plot of Tree All Patients, All Variables and Any Recurrence. Pruned Tree k=30

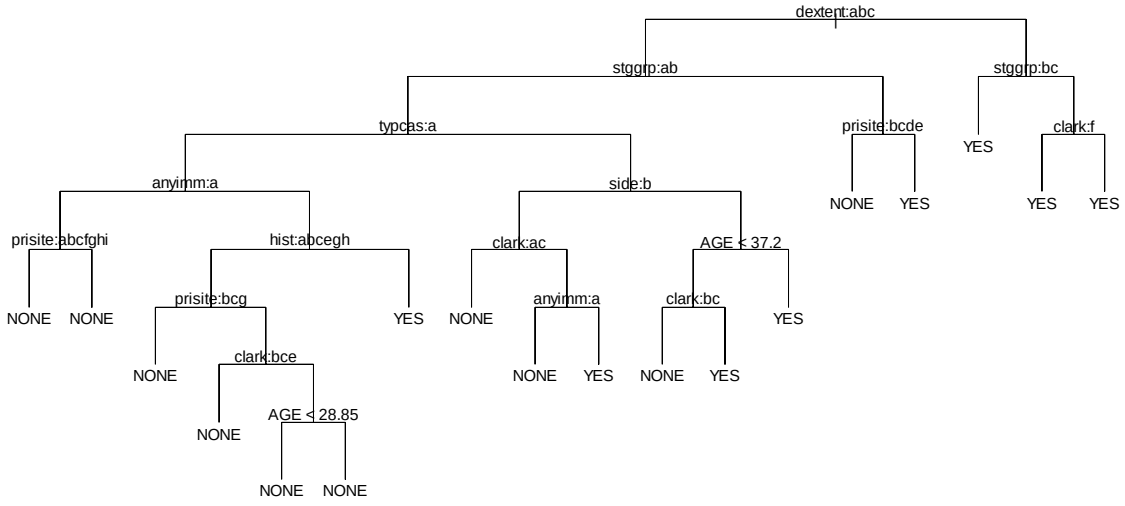


Fig.5. Plot of Tree All Patients All Variables and Any Recurrence Pruned Tree k=8

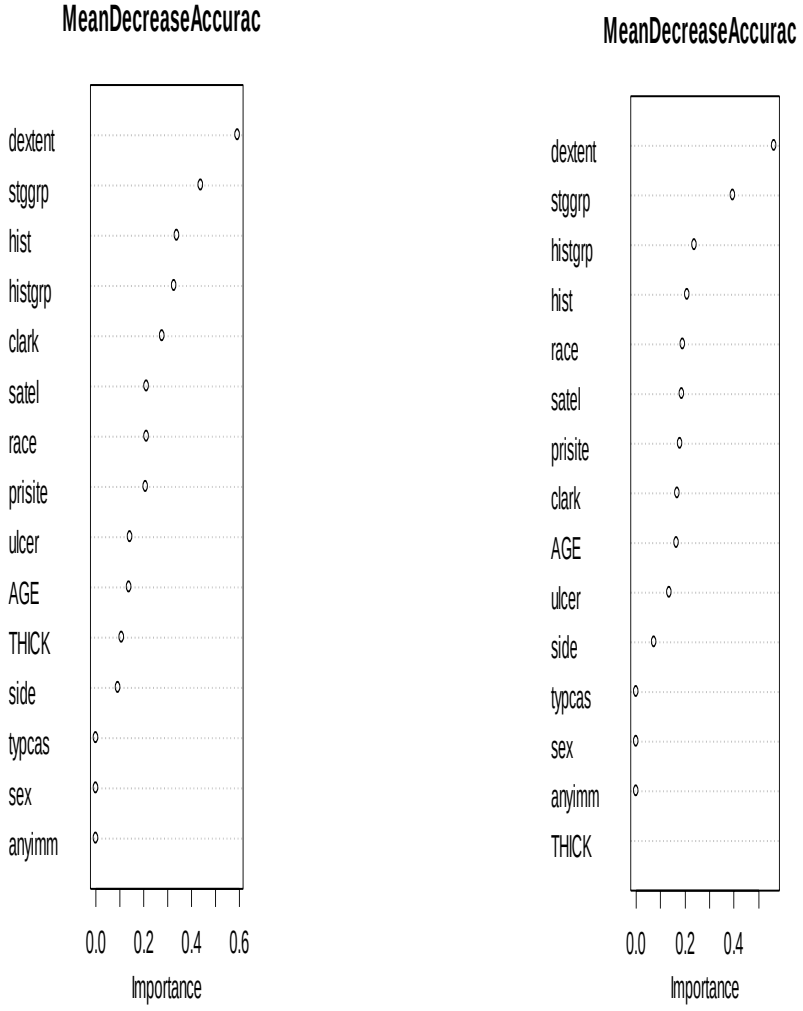


Fig.6. The Variable Importance Plot of All Patients, All Variables and Any Recurrence (L). The Variable Importance Plot of All Patients, All Variables and Recurrence More Than Local (R).

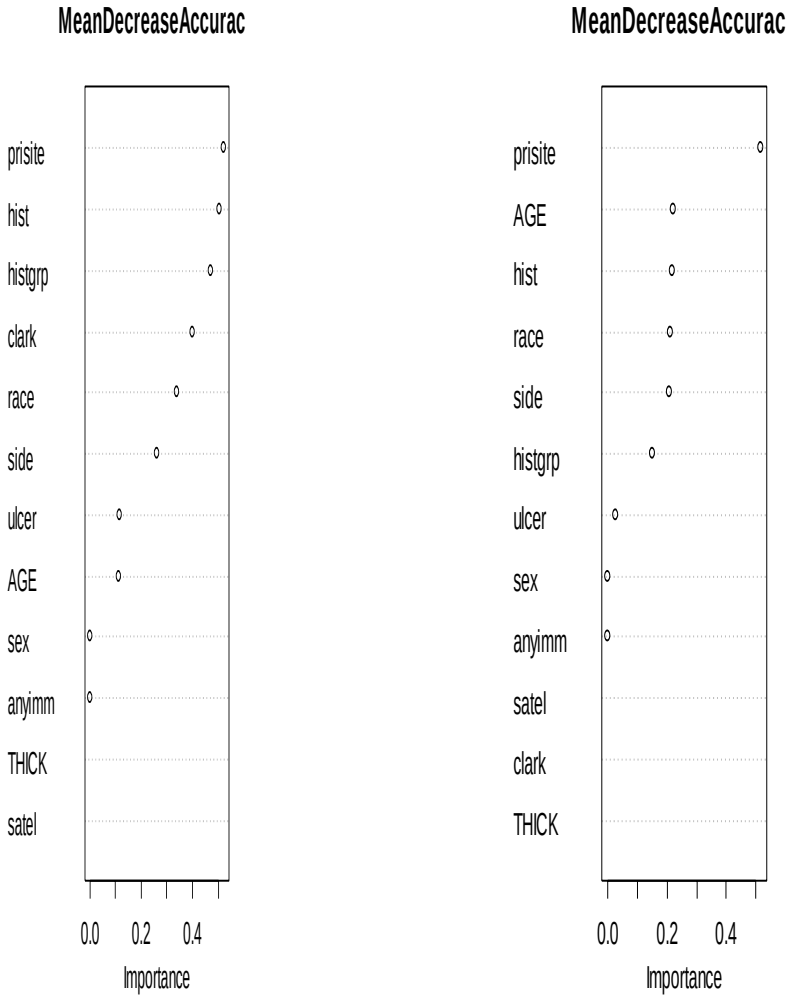


Fig.7. The Variable Importance Plot of All Patients, Leave Out STGGRP, DEXTEXT and TYPCAS. Any Recurrence (L). The Variable Importance Plot of All Patients, Leave Out STGGRP, DEXTEXT and TYPCAS, Recurrence More Than Local(R)

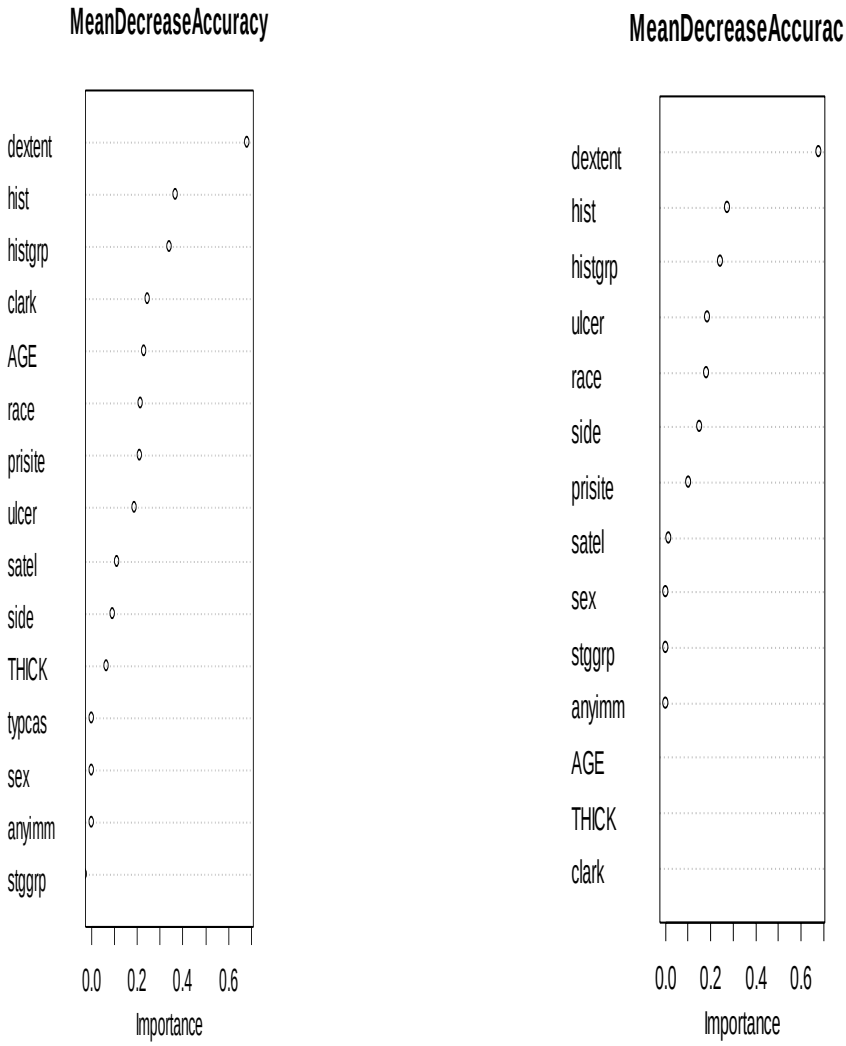


Fig.8. The Variable Importance Plot of Limited Patients, All Variables and Any Recurrence (L). The Variable Importance Plot of Limited Patients, All Variables and Recurrence More Than Local (R)

TEXT FULL TREE ALL PATIENTS ALL VARIABLES ANY RECURRENCE

```
1) root 1610 2043.000 NONE ( 0.669565 0.330435 )
  2) dextent: 0,1,2 1259 1051.000 NONE ( 0.853058 0.146942 )
    4) stggrp: 0,1 1196  895.400 NONE ( 0.876254 0.123746 )
      8) typcas: 1 1118  710.000 NONE ( 0.903399 0.096601 )
       16) anyimm: 0 272   92.120 NONE ( 0.959559 0.040441 )
         32) prisite: 1,2,3,6,7,12,13 242   56.220 NONE ( 0.975207 0.024793 )
           64) AGE < 50.8 145   11.950 NONE ( 0.993103 0.006897 )
            128) satel: 0 130    0.000 NONE ( 1.000000 0.000000 ) *
            129) satel: 9 15     7.348 NONE ( 0.933333 0.066667 )
              258) AGE < 36.2 3    3.819 NONE ( 0.666667 0.333333 )
                516) AGE < 33.1 2    0.000 NONE ( 1.000000 0.000000 ) *
                517) AGE > 33.1 1    0.000 YES ( 0.000000 1.000000 ) *
              259) AGE > 36.2 12    0.000 NONE ( 1.000000 0.000000 ) *
           65) AGE > 50.8 97   39.390 NONE ( 0.948454 0.051546 )
            130) AGE < 51.05 1    0.000 YES ( 0.000000 1.000000 ) *
            131) AGE > 51.05 96   33.260 NONE ( 0.958333 0.041667 )
              262) histgrp: 1,2,3,6 89   19.140 NONE ( 0.977528 0.022472 )
                524) prisite: 1,2,3,7,12 81   10.780 NONE ( 0.987654 0.012346 )
                 1048) AGE < 57.25 17    7.606 NONE ( 0.941176 0.058824 )
                   2096) AGE < 56.75 15    0.000 NONE ( 1.000000 0.000000 ) *
                   2097) AGE > 56.75 2    2.773 NONE ( 0.500000 0.500000 )
                     4194) side: 1 1    0.000 NONE ( 1.000000 0.000000 ) *
                     4195) side: 2 1    0.000 YES ( 0.000000 1.000000 ) *
                 1049) AGE > 57.25 64    0.000 NONE ( 1.000000 0.000000 ) *
                525) prisite: 13 8    6.028 NONE ( 0.875000 0.125000 )
                 1050) sex: 1 5    0.000 NONE ( 1.000000 0.000000 ) *
                 1051) sex: 2 3    3.819 NONE ( 0.666667 0.333333 )
                   2102) AGE < 65.95 2    0.000 NONE ( 1.000000 0.000000 ) *
                   2103) AGE > 65.95 1    0.000 YES ( 0.000000 1.000000 ) *
              263) histgrp: 4,5 7    8.376 NONE ( 0.714286 0.285714 )
                526) sex: 1 3    3.819 YES ( 0.333333 0.666667 )
                 1052) AGE < 71.25 2    0.000 YES ( 0.000000 1.000000 ) *
                 1053) AGE > 71.25 1    0.000 NONE ( 1.000000 0.000000 ) *
                527) sex: 2 4    0.000 NONE ( 1.000000 0.000000 ) *
         33) prisite: 4,14 30   27.030 NONE ( 0.833333 0.166667 )
           66) histgrp: 2,4,5 21    8.041 NONE ( 0.952381 0.047619 )
            132) AGE < 85.25 20    0.000 NONE ( 1.000000 0.000000 ) *
            133) AGE > 85.25 1    0.000 YES ( 0.000000 1.000000 ) *
           67) histgrp: 1,6 9   12.370 NONE ( 0.555556 0.444444 )
            134) clark: 2 2    0.000 NONE ( 1.000000 0.000000 ) *
            135) clark: 1,3 7    9.561 YES ( 0.428571 0.571429 ) *
       17) anyimm: 1 846  602.600 NONE ( 0.885343 0.114657 )
         34) hist: 1,2,3,6,12,14 835  575.100 NONE ( 0.891018 0.108982 )
           68) prisite: 2,3,7 364  192.400 NONE ( 0.925824 0.074176 )
            136) clark: 2,4,5,6 98   19.530 NONE ( 0.979592 0.020408 )
              272) side: 1 43   16.180 NONE ( 0.953488 0.046512 )
```

Fig.9. Text Full Tree All Patients All Variables Any Recurrence

```
  544) prisite: 2,7 21    0.000 NONE ( 1.000000 0.000000 ) *
  545) prisite: 3 22   13.400 NONE ( 0.909091 0.090909 )
 1090) THICK < 0.775 9    0.000 NONE ( 1.000000 0.000000 ) *
 1091) THICK > 0.775 13   11.160 NONE ( 0.846154 0.153846 )
 2182) THICK < 0.79 1    0.000 YES ( 0.000000 1.000000 ) *
 2183) THICK > 0.79 12    6.884 NONE ( 0.916667 0.083333 )
 4366) AGE < 61.95 10    0.000 NONE ( 1.000000 0.000000 ) *
 4367) AGE > 61.95 2    2.773 NONE ( 0.500000 0.500000 )
 8734) AGE < 67.15 1    0.000 YES ( 0.000000 1.000000 ) *
 8735) AGE > 67.15 1    0.000 NONE ( 1.000000 0.000000 ) *
  273) side: 2 55    0.000 NONE ( 1.000000 0.000000 ) *
  137) clark: 1,3 266  165.800 NONE ( 0.906015 0.093985 )
  274) THICK < 0.485 17   18.550 NONE ( 0.764706 0.235294 )
  548) sex: 1 3    0.000 YES ( 0.000000 1.000000 ) *
  549) sex: 2 14    7.205 NONE ( 0.928571 0.071429 )
 1098) AGE < 27.25 2    2.773 NONE ( 0.500000 0.500000 )
 2196) AGE < 21.2 1    0.000 NONE ( 1.000000 0.000000 ) *
 2197) AGE > 21.2 1    0.000 YES ( 0.000000 1.000000 ) *
 1099) AGE > 27.25 12    0.000 NONE ( 1.000000 0.000000 ) *
  275) THICK > 0.485 249  144.000 NONE ( 0.915663 0.084337 )
  550) THICK < 0.595 29    0.000 NONE ( 1.000000 0.000000 ) *
  551) THICK > 0.595 220  138.600 NONE ( 0.904545 0.095455 )
 1102) histgrp: 1,3,6 15    0.000 NONE ( 1.000000 0.000000 ) *
 1103) histgrp: 2 205  135.500 NONE ( 0.897561 0.102439 )
 2206) AGE < 68.55 194  119.900 NONE ( 0.907216 0.092784 )
 4412) AGE < 63.6 182  117.400 NONE ( 0.901099 0.098901 )
 8824) AGE < 62.65 180  108.000 NONE ( 0.911111 0.088889 )
17648) AGE < 58.55 162  104.400 NONE ( 0.901235 0.098765 )
35296) AGE < 58.15 161   99.760 NONE ( 0.906832 0.093168 )
70592) side: 1 73   31.010 NONE ( 0.945205 0.054795 )
141184) THICK < 0.625 4    5.545 NONE ( 0.500000 0.500000 )
282368) satel: 1,9 2    0.000 NONE ( 1.000000 0.000000 ) *
282369) satel: 0 2    0.000 YES ( 0.000000 1.000000 ) *
141185) THICK > 0.625 69   18.110 NONE ( 0.971014 0.028986 )
282370) ulcer: 1,2 66   10.360 NONE ( 0.984848 0.015152 )
564740) THICK < 0.88 46    0.000 NONE ( 1.000000 0.000000 ) *
564741) THICK > 0.88 20    7.941 NONE ( 0.950000 0.050000 )
1129482) THICK < 0.895 3    3.819 NONE ( 0.666667 0.333333 ) *
1129483) THICK > 0.895 17    0.000 NONE ( 1.000000 0.000000 ) *
282371) ulcer: 3 3    3.819 NONE ( 0.666667 0.333333 )
564742) THICK < 0.75 1    0.000 YES ( 0.000000 1.000000 ) *
564743) THICK > 0.75 2    0.000 NONE ( 1.000000 0.000000 ) *
70593) side: 2 88   66.310 NONE ( 0.875000 0.125000 )
141186) THICK < 0.76 30    8.769 NONE ( 0.966667 0.033333 )
282372) THICK < 0.635 9    6.279 NONE ( 0.888889 0.111111 )
564744) THICK < 0.62 7    0.000 NONE ( 1.000000 0.000000 ) *
564745) THICK > 0.62 2    2.773 YES ( 0.500000 0.500000 )
1129490) AGE < 36.65 1    0.000 YES ( 0.000000 1.000000 ) *
1129491) AGE > 36.65 1    0.000 NONE ( 1.000000 0.000000 ) *
```

“Fig.9. cont”

282373) THICK > 0.635 21 0.000 NONE (1.000000 0.000000) *
141187) THICK > 0.76 58 53.320 NONE (0.827586 0.172414)
282374) THICK < 0.775 3 3.819 YES (0.333333 0.666667)
564748) AGE < 44.2 1 0.000 NONE (1.000000 0.000000) *
564749) AGE > 44.2 2 0.000 YES (0.000000 1.000000) *
282375) THICK > 0.775 55 45.620 NONE (0.854545 0.145455)
564750) ulcer: 2,3 54 41.650 NONE (0.870370 0.129630)
1129500) sex: 1 14 16.750 NONE (0.714286 0.285714)
2259000) THICK < 0.835 7 0.000 NONE (1.000000 0.000000) *
2259001) THICK > 0.835 7 9.561 YES (0.428571 0.571429)
4518002) THICK < 0.975 5 6.730 NONE (0.600000 0.400000)
9036004) THICK < 0.895 3 3.819 YES (0.333333 0.666667)
18072008) AGE < 32.1 1 0.000 NONE (1.000000 0.000000) *
18072009) AGE > 32.1 2 0.000 YES (0.000000 1.000000) *
9036005) THICK > 0.895 2 0.000 NONE (1.000000 0.000000) *
4518003) THICK > 0.975 2 0.000 YES (0.000000 1.000000) *
1129501) sex: 2 40 21.310 NONE (0.925000 0.075000)
2259002) THICK < 0.865 20 16.910 NONE (0.850000 0.150000)
4518004) AGE < 21.5 1 0.000 YES (0.000000 1.000000) *
4518005) AGE > 21.5 19 12.790 NONE (0.894737 0.105263)
9036010) AGE < 50.65 17 7.606 NONE (0.941176 0.058824)
18072020) AGE < 35.2 5 5.004 NONE (0.800000 0.200000)
36144040) AGE < 32.95 4 0.000 NONE (1.000000 0.000000)
36144041) AGE > 32.95 1 0.000 YES (0.000000 1.000000) *
18072021) AGE > 35.2 12 0.000 NONE (1.000000 0.000000) *
9036011) AGE > 50.65 2 2.773 YES (0.500000 0.500000)
18072022) AGE < 52.2 1 0.000 YES (0.000000 1.000000) *
18072023) AGE > 52.2 1 0.000 NONE (1.000000 0.000000) *
2259003) THICK > 0.865 20 0.000 NONE (1.000000 0.000000) *
564751) ulcer: 1 1 0.000 YES (0.000000 1.000000) *
35297) AGE > 58.15 1 0.000 YES (0.000000 1.000000) *
17649) AGE > 58.55 18 0.000 NONE (1.000000 0.000000) *
8825) AGE > 62.65 2 0.000 YES (0.000000 1.000000) *
4413) AGE > 63.6 12 0.000 NONE (1.000000 0.000000) *
2207) AGE > 68.55 11 12.890 NONE (0.727273 0.272727)
4414) AGE < 69.55 3 0.000 YES (0.000000 1.000000) *
4415) AGE > 69.55 8 0.000 NONE (1.000000 0.000000) *
69) prisite: 1,6,12,13,14 471 374.400 NONE (0.864119 0.135881)
138) clark: 2,3,5 382 264.700 NONE (0.890052 0.109948)
276) prisite: 1,13,14 374 245.800 NONE (0.898396 0.101604)
552) AGE < 26.05 24 0.000 NONE (1.000000 0.000000) *
553) AGE > 26.05 350 240.500 NONE (0.891429 0.108571)
1106) AGE < 30.65 29 34.160 NONE (0.724138 0.275862)
2212) prisite: 1 24 30.550 NONE (0.666667 0.333333)
4424) histgrp: 2 21 27.910 NONE (0.619048 0.380952)
8848) clark: 2 2 0.000 NONE (1.000000 0.000000) *
8849) clark: 3 19 25.860 NONE (0.578947 0.421053) *
4425) histgrp: 3 3 0.000 NONE (1.000000 0.000000) *
2213) prisite: 14 5 0.000 NONE (1.000000 0.000000) *

“Fig.9. cont”

```
1107) AGE > 30.65 321  199.300 NONE ( 0.906542 0.093458 )
 2214) side: 0,1 172   81.770 NONE ( 0.936047 0.063953 )
  4428) THICK < 0.815 111   27.580 NONE ( 0.972973 0.027027 )
   8856) AGE < 50.85 71    0.000 NONE ( 1.000000 0.000000 ) *
   8857) AGE > 50.85 40   21.310 NONE ( 0.925000 0.075000 )
    17714) AGE < 57.95 14   14.550 NONE ( 0.785714 0.214286 )
     35428) THICK < 0.47 1    0.000 YES ( 0.000000 1.000000 ) *
     35429) THICK > 0.47 13   11.160 NONE ( 0.846154 0.153846 )
      70858) AGE < 57.6 12    6.884 NONE ( 0.916667 0.083333 )
       141716) AGE < 51.2 2    2.773 NONE ( 0.500000 0.500000 )
        283432) sex: 1 1    0.000 YES ( 0.000000 1.000000 ) *
        283433) sex: 2 1    0.000 NONE ( 1.000000 0.000000 ) *
       141717) AGE > 51.2 10    0.000 NONE ( 1.000000 0.000000 ) *
      70859) AGE > 57.6 1    0.000 YES ( 0.000000 1.000000 ) *
    17715) AGE > 57.95 26    0.000 NONE ( 1.000000 0.000000 ) *
  4429) THICK > 0.815 61   47.400 NONE ( 0.868852 0.131148 )
   8858) histgrp: 1,2,3,5 60   43.230 NONE ( 0.883333 0.116667 )
    17716) AGE < 50.7 36   32.440 NONE ( 0.833333 0.166667 )
     35432) AGE < 48.7 31   19.710 NONE ( 0.903226 0.096774 )
      70864) sex: 1 16    0.000 NONE ( 1.000000 0.000000 ) *
      70865) sex: 2 15   15.010 NONE ( 0.800000 0.200000 )
       141730) AGE < 34.55 4    5.545 NONE ( 0.500000 0.500000 ) *
       141731) AGE > 34.55 11    6.702 NONE ( 0.909091 0.090909 )
        283462) histgrp: 2 9    0.000 NONE ( 1.000000 0.000000 ) *
        283463) histgrp: 3 2    2.773 NONE ( 0.500000 0.500000 )
         566926) AGE < 43 1    0.000 NONE ( 1.000000 0.000000 ) *
         566927) AGE > 43 1    0.000 YES ( 0.000000 1.000000 ) *
     35433) AGE > 48.7 5    6.730 YES ( 0.400000 0.600000 )
      70866) AGE < 49.45 2    0.000 YES ( 0.000000 1.000000 ) *
      70867) AGE > 49.45 3    3.819 NONE ( 0.666667 0.333333 )
       141734) AGE < 50.15 2    0.000 NONE ( 1.000000 0.000000 ) *
       141735) AGE > 50.15 1    0.000 YES ( 0.000000 1.000000 ) *
    17717) AGE > 50.7 24    8.314 NONE ( 0.958333 0.041667 )
     35434) AGE < 68.2 22    0.000 NONE ( 1.000000 0.000000 ) *
     35435) AGE > 68.2 2    2.773 YES ( 0.500000 0.500000 )
      70870) AGE < 78.15 1    0.000 YES ( 0.000000 1.000000 ) *
      70871) AGE > 78.15 1    0.000 NONE ( 1.000000 0.000000 ) *
   8859) histgrp: 6 1    0.000 YES ( 0.000000 1.000000 ) *
 2215) side: 2 149  113.700 NONE ( 0.872483 0.127517 )
  4430) AGE < 40.15 44   49.490 NONE ( 0.750000 0.250000 )
   8860) AGE < 38.55 37   32.800 NONE ( 0.837838 0.162162 )
    17720) THICK < 0.985 36   29.010 NONE ( 0.861111 0.138889 )
     35440) sex: 1 21    8.041 NONE ( 0.952381 0.047619 )
      70880) AGE < 37.45 19    0.000 NONE ( 1.000000 0.000000 ) *
      70881) AGE > 37.45 2    2.773 NONE ( 0.500000 0.500000 )
       141762) THICK < 0.82 1    0.000 YES ( 0.000000 1.000000 ) *
       141763) THICK > 0.82 1    0.000 NONE ( 1.000000 0.000000 ) *
     35441) sex: 2 15   17.400 NONE ( 0.733333 0.266667 )
      70882) AGE < 32.45 4    0.000 NONE ( 1.000000 0.000000 ) *
```

"Fig.9. cont"

```
          70883) AGE > 32.45 11   14.420 NONE ( 0.636364 0.363636 )
            141766) AGE < 34.9 4    4.499 YES ( 0.250000 0.750000 )
              283532) ulcer: 3 1    0.000 NONE ( 1.000000 0.000000 ) *
              283533) ulcer: 1,2 3    0.000 YES ( 0.000000 1.000000 ) *
            141767) AGE > 34.9 7    5.742 NONE ( 0.857143 0.142857 ) *
          17721) THICK > 0.985 1    0.000 YES ( 0.000000 1.000000 ) *
        8861) AGE > 38.55 7    8.376 YES ( 0.285714 0.714286 )
          17722) prisite: 1 6    5.407 YES ( 0.166667 0.833333 )
            35444) satel: 0 4    0.000 YES ( 0.000000 1.000000 ) *
            35445) satel: 9 2    2.773 NONE ( 0.500000 0.500000 )
              70890) AGE < 39.95 1    0.000 NONE ( 1.000000 0.000000 ) *
              70891) AGE > 39.95 1    0.000 YES ( 0.000000 1.000000 ) *
          17723) prisite: 14 1    0.000 NONE ( 1.000000 0.000000 ) *
      4431) AGE > 40.15 105   56.570 NONE ( 0.923810 0.076190 )
        8862) sex: 1 73   50.470 NONE ( 0.890411 0.109589 )
          17724) AGE < 58.4 56   28.820 NONE ( 0.928571 0.071429 )
            35448) AGE < 50.3 34   24.630 NONE ( 0.882353 0.117647 )
              70896) AGE < 50.15 33   20.110 NONE ( 0.909091 0.090909 )
              141792) ulcer: 2,3 32   14.960 NONE ( 0.937500 0.062500 )
                283584) prisite: 1,13 26    0.000 NONE ( 1.000000 0.000000 ) *
                283585) prisite: 14 6    7.638 NONE ( 0.666667 0.333333 )
                  567170) AGE < 42.8 2    0.000 NONE ( 1.000000 0.000000 ) *
                  567171) AGE > 42.8 4    5.545 NONE ( 0.500000 0.500000 ) *
              141793) ulcer: 1 1    0.000 YES ( 0.000000 1.000000 ) *
              70897) AGE > 50.15 1    0.000 YES ( 0.000000 1.000000 ) *
            35449) AGE > 50.3 22    0.000 NONE ( 1.000000 0.000000 ) *
          17725) AGE > 58.4 17   18.550 NONE ( 0.764706 0.235294 )
            35450) AGE < 66.8 12   15.280 NONE ( 0.666667 0.333333 )
              70900) AGE < 59.05 1    0.000 YES ( 0.000000 1.000000 ) *
                70901) AGE > 59.05 11   12.890 NONE ( 0.727273 0.272727 )
                  141802) AGE < 61.85 5    0.000 NONE ( 1.000000 0.000000 ) *
                    141803) AGE > 61.85 6    8.318 NONE ( 0.500000 0.500000 ) *
                  70901) AGE > 59.05 11   12.890 NONE ( 0.727273 0.272727 )
              141802) AGE < 61.85 5    0.000 NONE ( 1.000000 0.000000 ) *
              141803) AGE > 61.85 6    8.318 NONE ( 0.500000 0.500000 ) *
            35451) AGE > 66.8 5    0.000 NONE ( 1.000000 0.000000 ) *
        8863) sex: 2 32    0.000 NONE ( 1.000000 0.000000 ) *
  277) prisite: 6,12 8   11.090 NONE ( 0.500000 0.500000 )
    554) AGE < 49.05 3    0.000 NONE ( 1.000000 0.000000 ) *
    555) AGE > 49.05 5    5.004 YES ( 0.200000 0.800000 )
     1110) THICK < 0.94 4    0.000 YES ( 0.000000 1.000000 ) *
     1111) THICK > 0.94 1    0.000 NONE ( 1.000000 0.000000 ) *
139) clark: 1,4 89   99.540 NONE ( 0.752809 0.247191 )
  278) AGE < 28.85 13    0.000 NONE ( 1.000000 0.000000 ) *
  279) AGE > 28.85 76   91.460 NONE ( 0.710526 0.289474 )
    558) clark: 1 7    9.561 YES ( 0.428571 0.571429 )
     1116) ulcer: 1,3 3    0.000 NONE ( 1.000000 0.000000 ) *
     1117) ulcer: 2 4    0.000 YES ( 0.000000 1.000000 ) *
    559) clark: 4 69   79.210 NONE ( 0.739130 0.260870 )
```

“Fig.9. cont”

```
          1118) ulcer: 2 63   66.740 NONE ( 0.777778 0.222222 )
          2236) THICK < 0.905 43   34.750 NONE ( 0.860465 0.139535 )
          4472) histgrp: 1,2,6 42   30.660 NONE ( 0.880952 0.119048 )
          8944) prisite: 1,12,14 41   26.210 NONE ( 0.902439 0.097561 )
          17888) AGE < 52.45 22   20.860 NONE ( 0.818182 0.181818 )
          35776) sex: 1 13   16.050 NONE ( 0.692308 0.307692 )
          71552) THICK < 0.855 8   11.090 NONE ( 0.500000 0.500000 )
          143104) THICK < 0.775 2    0.000 NONE ( 1.000000 0.000000 ) *
          143105) THICK > 0.775 6    7.638 YES ( 0.333333 0.666667 )
          286210) AGE < 44.9 4    5.545 NONE ( 0.500000 0.500000 ) *
          286211) AGE > 44.9 2    0.000 YES ( 0.000000 1.000000 ) *
          71553) THICK > 0.855 5    0.000 NONE ( 1.000000 0.000000 ) *
          35777) sex: 2 9    0.000 NONE ( 1.000000 0.000000 ) *
          17889) AGE > 52.45 19    0.000 NONE ( 1.000000 0.000000 ) *
          8945) prisite: 13 1    0.000 YES ( 0.000000 1.000000 ) *
          4473) histgrp: 3 1    0.000 YES ( 0.000000 1.000000 ) *
          2237) THICK > 0.905 20   26.920 NONE ( 0.600000 0.400000 )
          4474) AGE < 45.35 5    0.000 NONE ( 1.000000 0.000000 ) *
          4475) AGE > 45.35 15   20.730 YES ( 0.466667 0.533333 )
          8950) prisite: 1,13 13   17.940 NONE ( 0.538462 0.461538 ) *
          8951) prisite: 14 2    0.000 YES ( 0.000000 1.000000 ) *
        1119) ulcer: 1,3 6    7.638 YES ( 0.333333 0.666667 )
          2238) sex: 1 4    0.000 YES ( 0.000000 1.000000 ) *
          2239) sex: 2 2    0.000 NONE ( 1.000000 0.000000 ) *
  35) hist: 4,10,16 11   15.160 YES ( 0.454545 0.545455 )
    70) clark: 2,4,6 7    8.376 NONE ( 0.714286 0.285714 )
    140) THICK < 0.695 2    0.000 YES ( 0.000000 1.000000 ) *
    141) THICK > 0.695 5    0.000 NONE ( 1.000000 0.000000 ) *
   9) typcas: 2 78  108.100 YES ( 0.487179 0.512821 )
  18) side: 1 38   50.020 NONE ( 0.631579 0.368421 )
    36) clark: 1,3 26   28.090 NONE ( 0.769231 0.230769 )
    72) AGE < 33 2    0.000 YES ( 0.000000 1.000000 ) *
    73) AGE > 33 24   21.630 NONE ( 0.833333 0.166667 )
    146) hist: 2,4 22   13.400 NONE ( 0.909091 0.090909 )
    292) THICK < 0.345 2    2.773 NONE ( 0.500000 0.500000 )
    584) AGE < 45.9 1    0.000 NONE ( 1.000000 0.000000 ) *
    585) AGE > 45.9 1    0.000 YES ( 0.000000 1.000000 ) *
    293) THICK > 0.345 20    7.941 NONE ( 0.950000 0.050000 )
    586) AGE < 37.05 3    3.819 NONE ( 0.666667 0.333333 )
    1172) sex: 1 2    0.000 NONE ( 1.000000 0.000000 ) *
    1173) sex: 2 1    0.000 YES ( 0.000000 1.000000 ) *
    587) AGE > 37.05 17    0.000 NONE ( 1.000000 0.000000 ) *
    147) hist: 3,15 2    0.000 YES ( 0.000000 1.000000 ) *
    37) clark: 2,4 12   15.280 YES ( 0.333333 0.666667 )
    74) anyimm: 0 4    0.000 NONE ( 1.000000 0.000000 ) *
    75) anyimm: 1 8    0.000 YES ( 0.000000 1.000000 ) *
  19) side: 0,2 40   51.800 YES ( 0.350000 0.650000 )
    38) AGE < 37.2 15   19.100 NONE ( 0.666667 0.333333 )
    76) clark: 2,3 12   10.810 NONE ( 0.833333 0.166667 )
```

"Fig.9. cont"

```
152) AGE < 22.7 1    0.000 YES ( 0.000000 1.000000 ) *
           153) AGE > 22.7 11    6.702 NONE ( 0.909091 0.090909 ) *
          77) clark: 1,4 3    0.000 YES ( 0.000000 1.000000 ) *
         39) AGE > 37.2 25   21.980 YES ( 0.160000 0.840000 )
          78) AGE < 52.4 15   17.400 YES ( 0.266667 0.733333 )
          156) AGE < 46 8    0.000 YES ( 0.000000 1.000000 ) *
          157) AGE > 46 7    9.561 NONE ( 0.571429 0.428571 )
            314) prisite: 3,12 3    0.000 NONE ( 1.000000 0.000000 ) *
            315) prisite: 1,2 4    4.499 YES ( 0.250000 0.750000 )
              630) AGE < 47.4 1    0.000 NONE ( 1.000000 0.000000 ) *
              631) AGE > 47.4 3    0.000 YES ( 0.000000 1.000000 ) *
          79) AGE > 52.4 10    0.000 YES ( 0.000000 1.000000 ) *
       5) stggrp: 4,8 63   85.410 YES ( 0.412698 0.587302 )
        10) prisite: 2,3,4,5 15   17.400 NONE ( 0.733333 0.266667 )
         20) THICK < 0.725 8   11.090 YES ( 0.500000 0.500000 )
          40) sex: 1 5    5.004 NONE ( 0.800000 0.200000 )
           80) clark: 2,3,6 4    0.000 NONE ( 1.000000 0.000000 ) *
           81) clark: 1 1    0.000 YES ( 0.000000 1.000000 ) *
          41) sex: 2 3    0.000 YES ( 0.000000 1.000000 ) *
         21) THICK > 0.725 7    0.000 NONE ( 1.000000 0.000000 ) *
        11) prisite: 1,12,13,14 48   59.620 YES ( 0.312500 0.687500 )
         22) satel: 0 42   54.750 YES ( 0.357143 0.642857 )
          44) prisite: 1,14 38   50.980 YES ( 0.394737 0.605263 )
           88) AGE < 59.6 27   32.820 YES ( 0.296296 0.703704 )
            176) AGE < 46.9 18   24.730 YES ( 0.444444 0.555556 )
             352) AGE < 45.25 15   19.100 YES ( 0.333333 0.666667 )
              704) THICK < 0.35 4    0.000 YES ( 0.000000 1.000000 ) *
              705) THICK > 0.35 11   15.160 YES ( 0.454545 0.545455 )
               1410) AGE < 27.7 2    0.000 YES ( 0.000000 1.000000 ) *
               1411) AGE > 27.7 9   12.370 NONE ( 0.555556 0.444444 )
                 2822) THICK < 0.83 7    8.376 NONE ( 0.714286 0.285714 )
                   5644) anyimm: 0 1    0.000 YES ( 0.000000 1.000000 ) *
                   5645) anyimm: 1 6    5.407 NONE ( 0.833333 0.166667 )
                    11290) AGE < 29.55 2    2.773 NONE ( 0.500000 0.500000 )
                      22580) AGE < 28.85 1    0.000 NONE ( 1.000000 0.000000 ) *
                      22581) AGE > 28.85 1    0.000 YES ( 0.000000 1.000000 ) *
                    11291) AGE > 29.55 4    0.000 NONE ( 1.000000 0.000000 ) *
                 2823) THICK > 0.83 2    0.000 YES ( 0.000000 1.000000 ) *
             353) AGE > 45.25 3    0.000 NONE ( 1.000000 0.000000 ) *
            177) AGE > 46.9 9    0.000 YES ( 0.000000 1.000000 ) *
           89) AGE > 59.6 11   14.420 NONE ( 0.636364 0.363636 )
            178) AGE < 64.85 4    0.000 NONE ( 1.000000 0.000000 ) *
            179) AGE > 64.85 7    9.561 YES ( 0.428571 0.571429 )
             358) AGE < 69 3    0.000 YES ( 0.000000 1.000000 ) *
             359) AGE > 69 4    4.499 NONE ( 0.750000 0.250000 )
              718) AGE < 74.3 3    0.000 NONE ( 1.000000 0.000000 ) *
              719) AGE > 74.3 1    0.000 YES ( 0.000000 1.000000 ) *
          45) prisite: 12,13 4    0.000 YES ( 0.000000 1.000000 ) *
         23) satel: 1,9 6    0.000 YES ( 0.000000 1.000000 ) *
```

“Fig.9. cont”

```
3) dextent: 3,4,5,6,11 351   43.750 YES ( 0.011396 0.988604 )
        6) stggrp: 1,4 12   13.500 YES ( 0.250000 0.750000 )
         12) prisite: 1 5    6.730 NONE ( 0.600000 0.400000 )
           24) AGE < 39.65 2    0.000 YES ( 0.000000 1.000000 ) *
           25) AGE > 39.65 3    0.000 NONE ( 1.000000 0.000000 ) *
         13) prisite: 2,3,13,14 7    0.000 YES ( 0.000000 1.000000 ) *
        7) stggrp: 0 339   13.650 YES ( 0.002950 0.997050 )
         14) clark: 6 5    5.004 YES ( 0.200000 0.800000 )
           28) prisite: 1 1    0.000 NONE ( 1.000000 0.000000 ) *
           29) prisite: 2,3 4    0.000 YES ( 0.000000 1.000000 ) *
         15) clark: 1,2,3,4,5 334    0.000 YES ( 0.000000 1.000000 ) *
```

“Fig.9. cont”

Table 1. 10 Consecutive Random Forests 10 Trees

MTRY 4

SAMPLE #	NONE VOTES N	NONE VOTES Y	YES VOTES N	YES VOTES Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1007	59	225	299	0.055	0.429	17.86
2	1027	38	303	223	0.036	0.576	21.43
3	1029	40	182	348	0.037	0.343	13.88
4	1004	63	191	338	0.059	0.361	15.91
5	1010	62	191	334	0.058	0.364	15.84
6	1036	31	265	264	0.029	0.501	18.55
7	1009	57	191	336	0.053	0.362	15.57
8	1024	42	199	327	0.039	0.378	15.14
9	1036	26	204	323	0.024	0.387	14.47
10	1010	59	180	347	0.055	0.342	14.97

Table 2. 10 Consecutive Random Forests 25 Trees

MTRY 4

SAMPLE #	NONE VOTES N	NONE VOTES Y	YES VOTES N	YES VOTES Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1040	38	181	351	0.035	0.340	13.60
2	1047	31	177	355	0.029	0.333	12.92
3	1045	33	165	367	0.031	0.310	12.30
4	1042	36	213	319	0.033	0.400	15.47
5	1046	32	215	317	0.030	0.404	15.34
6	1043	35	177	355	0.032	0.333	13.17
7	1049	29	195	337	0.027	0.367	13.91
8	1049	29	230	302	0.027	0.432	16.09
9	1036	42	189	343	0.039	0.355	14.35
10	1054	24	197	335	0.022	0.370	13.73

Table 3. 10 Consecutive Random Forests 50 Trees

MTRY 4

SAMPLE #	NONE VOTES N	NONE VOTES Y	YES VOTES N	YES VOTES Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1044	34	165	367	0.032	0.310	12.36
2	1042	36	166	366	0.033	0.312	12.55
3	1061	17	189	343	0.016	0.355	12.80
4	1049	29	166	366	0.027	0.312	12.11
5	1052	26	185	347	0.024	0.348	13.11
6	1050	28	180	352	0.026	0.338	12.92
7	1052	26	176	356	0.024	0.331	12.55
8	1056	22	177	355	0.020	0.333	12.36
9	1050	28	178	354	0.026	0.335	12.80
10	1051	27	165	367	0.025	0.310	11.93

Table 4. 10 Consecutive Random Forests 100 Trees

MTRY 4

SAMPLE #	NONE VOTES N	NONE VOTES Y	YES VOTES N	YES VOTES Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1056	22	175	357	0.020	0.329	12.24
2	1052	26	172	360	0.024	0.323	12.30
3	1048	30	169	363	0.028	0.318	12.36
4	1054	24	169	363	0.022	0.318	11.99
5	1054	24	174	358	0.022	0.327	12.30
6	1057	21	175	357	0.019	0.329	12.17
7	1057	21	179	353	0.019	0.336	12.42
8	1058	20	178	354	0.019	0.335	12.30
9	1044	34	166	366	0.032	0.312	12.42
10	1059	19	166	366	0.018	0.312	11.49

Table 5. 10 Consecutive Random Forests 200 Trees

MTRY 4

SAMPLE #	NONE VOTES N	Y	YES VOTES N	Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1058	20	180	352	0.019	0.338	12.42
2	1060	18	173	359	0.017	0.325	11.86
3	1059	19	173	359	0.018	0.325	11.93
4	1056	22	172	360	0.020	0.323	12.05
5	1055	23	170	362	0.021	0.320	11.99
6	1051	27	178	354	0.025	0.335	12.73
7	1058	20	179	353	0.019	0.336	12.36
8	1060	18	178	354	0.017	0.335	12.17
9	1057	21	175	357	0.019	0.329	12.17
10	1054	24	172	360	0.022	0.323	12.17

Table 6. 10 Consecutive Random Forests 300 Trees

MTRY 4

SAMPLE #	NONE VOTES N	Y	YES VOTES N	Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1056	22	179	353	0.020	0.336	12.48
2	1058	20	172	360	0.019	0.323	11.93
3	1056	22	180	352	0.020	0.338	12.55
4	1056	22	176	356	0.020	0.331	12.30
5	1059	19	180	352	0.018	0.338	12.36
6	1058	20	174	358	0.019	0.327	12.05
7	1058	20	182	350	0.019	0.342	12.55
8	1058	20	178	354	0.019	0.335	12.30
9	1059	19	182	350	0.018	0.342	12.48
10	1055	23	174	358	0.021	0.327	12.24

Table 7. 10 Consecutive Random Forests 500 Trees

MTRY 4

SAMPLE #	NONE VOTES N	Y	YES VOTES N	Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1055	23	179	353	0.021	0.336	12.55
2	1059	19	180	352	0.018	0.338	12.36
3	1061	17	184	348	0.016	0.346	12.48
4	1060	18	181	351	0.017	0.340	12.36
5	1057	21	179	353	0.019	0.336	12.42
6	1056	22	176	356	0.020	0.331	12.30
7	1061	17	181	351	0.016	0.340	12.30
8	1059	19	181	351	0.018	0.340	12.42
9	1061	17	179	353	0.016	0.336	12.17
10	1057	21	177	355	0.019	0.333	12.30

Table 8. 10 Consecutive Random Forests 1000 Trees

MTRY 4

SAMPLE #	NONE VOTES N	Y	YES VOTES N	Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
1	1058	20	180	352	0.019	0.338	12.42
2	1058	20	181	351	0.019	0.340	12.48
3	1058	20	178	354	0.019	0.335	12.30
4	1059	19	180	352	0.018	0.338	12.36
5	1057	21	176	356	0.019	0.331	12.24
6	1059	19	179	353	0.018	0.336	12.30
7	1059	19	174	358	0.018	0.327	11.99
8	1055	23	179	353	0.021	0.336	12.55
9	1056	22	175	357	0.020	0.329	12.24
10	1056	22	178	354	0.020	0.335	12.42

Table 9. Consecutive Larger Trees 2000 3000 5000

5 Consecutive runs 2000 trees
3 Consecutive runs 3000 trees
2 Consecutive runs 5000 trees
MTRY 4

NUMBER TREES	NONE VOTES N	Y	YES VOTES N	Y	M.S.E. NONE	M.S.E. YES	TOTAL PERCENT ERROR
2000	1052	26	175	357	0.024	0.329	12.48
2000	1057	21	177	355	0.019	0.333	12.30
2000	1055	23	178	354	0.021	0.335	12.48
2000	1059	19	178	354	0.018	0.335	12.24
2000	1056	22	171	361	0.020	0.321	11.99
3000	1056	22	177	355	0.020	0.333	12.36
3000	1056	22	176	356	0.020	0.331	12.30
3000	1056	22	175	357	0.020	0.329	12.24
5000	1058	20	178	354	0.019	0.335	12.30
5000	1057	21	177	355	0.019	0.333	12.30

Table 10. Single Tree Results All Patients All Variables Any Recurrence

SINGLE TREE RESULTS ALL PATIENTS ALL VARIABLES ANY RECURRENCE
TOTAL SET

NONE	YES	TOTAL PERCENT YES
1078	532	33.04

NUMBER OF ACTUAL YES, NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
99	27	21.43

PERCENT PREDICTED YES WITH
YES >=.50 IS 37.30 YES >=.15 IS 37.30
YES >=.10 IS 37.30 YES >=.05 IS 38.10

THIS IS RESULTS WITH YES >=.50

	FULL TREE	k=5	k=30
M.S.E. of YES	17.78	17.78	8.89
M.S.E. of NONE	12.35	8.64	8.33
TOTAL M.S.E.	14.29	11.90	8.73

THIS IS RESULTS WITH YES >=.15

	FULL TREE	k=5	k=30
M.S.E. of YES	17.78	13.33	8.89
M.S.E. of NONE	12.35	17.28	15.38
TOTAL M.S.E.	14.29	15.87	14.29

THIS IS RESULTS WITH YES >=.10

	FULL TREE	k=5	k=30
M.S.E. of YES	17.78	13.33	8.89
M.S.E. of NONE	12.35	17.28	15.38
TOTAL M.S.E.	14.29	15.87	14.29

THIS IS RESULTS WITH YES >=.05

	FULL TREE	k=5	k=30
M.S.E. of YES	15.56	4.44	0.00
M.S.E. of NONE	12.35	45.68	100.00
TOTAL M.S.E.	13.49	30.95	29.37

Table 11. Single Tree Results All Patients All Variables Recurrence More Than Local

SINGLE TREE RESULTS ALL PATIENTS ALL VARIABLES RECURRENCE MORE THAN LOCAL
TOTAL SET

NONE	YES	TOTAL PERCENT YES
1172	438	27.20

NUMBER OF ACTUAL YES, NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
99	27	21.43

PERCENT PREDICTED YES WITH
YES >=.50 IS 24.60 YES >=.15 IS 26.98
YES >=.10 IS 26.98 YES >=.05 IS 26.98

THIS IS RESULTS WITH YES >=.50

	FULL TREE	k=5	k=30
M.S.E. of YES	33.33	33.33	29.63
M.S.E. of NONE	13.13	7.07	7.00
TOTAL M.S.E.	17.46	12.70	11.90”

THIS IS RESULTS WITH YES >.15

	FULL TREE	k=5	k=30
M.S.E. of YES	33.33	33.33	29.63
M.S.E. of NONE	16.16	18.18	16.22
TOTAL M.S.E.	19.80	21.43	20.63

THIS IS RESULTS WITH YES >.1

	FULL TREE	k=5	k=30
M.S.E. of YES	33.33	33.33	29.63
M.S.E. of NONE	16.16	18.18	16.22
TOTAL M.S.E.	19.84	21.43	20.63

THIS IS RESULTS WITH YES >.05

	FULL TREE	k=5	k=30
M.S.E. of YES	33.33	18.52	0.00
M.S.E. of NONE	16.16	51.52	100.00
TOTAL M.S.E.	19.84	44.44	40.48

Table12. Single Tree Results All Patients All Variables Recurrence More Than Local 2nd Run

SINGLE TREE ALL PATIENTS ALL VARIABLES RECURRENCE MORE THAN LOCAL 2ND RUN
TOTAL SET

NONE	YES	TOTAL PERCENT YES
1172	438	27.20

NUMBER OF ACTUAL YES, NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
86	40	31.75

PERCENT PREDICTED YES WITH
YES >=.50 IS 29.37 YES >=.15 IS 30.95
YES >=.10 IS 30.95 YES >=.05 IS 34.92

THIS IS RESULTS WITH YES >=.50

	FULL TREE	k=5	k=30
M.S.E. of YES	35.00	20.00	20.00
M.S.E. of NONE	12.79	4.65	4.60
TOTAL M.S.E	19.84	9.52	9.52

THIS IS RESULTS WITH YES >.15

	FULL TREE	k=5	k=30
M.S.E. of YES	32.50	17.50	20.00
M.S.E. of NONE	13.95	15.12	13.54
TOTAL M.S.E	19.84	15.87	16.67

THIS IS RESULTS WITH YES >.10

	FULL TREE	k=5	k=30
M.S.E. of YES	32.50	17.50	20.00
M.S.E. of NONE	13.95	15.12	13.54
TOTAL M.S.E	19.84	5.87	16.67

THIS IS RESULTS WITH YES >.05

	FULL TREE	k=5	k=30
M.S.E. of YES	30.00	0.00	0.00
M.S.E. of NONE	18.60	51.15	100.00
TOTAL M.S.E	22.22	38.10	34.92

Table 13. Single Tree Results All Patients Leave Out Variables Any Recurrence

SINGLE TREE RESULTS All PATIENTS LEAVE OUT VARIABLES ANY RECURRENCE
TOTAL SET

NONE	YES	PERCENT YES
1078	532	33.04

NUMBER OF ACTUAL YES AND NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
81	45	35.71

PERCENT PREDICTED YES WITH
YES >=.50 IS 19.84 YES >=.15 IS 81.75
YES >=.10 IS 81.75 YES >=.05 IS 89.68

THIS IS RESULTS WITH YES >=.50

	FULL TREE	k=5	k=30
M.S.E. of YES	62.22	62.22	68.89
M.S.E. of NONE	9.88	9.88	9.76
M.S.E. for Full	28.57	28.57	30.95

THIS IS RESULTS WITH YES >=.15

	FULL TREE	k=5	k=30
M.S.E. of YES	13.33	13.33	2.22
M.S.E. of NONE	79.01	79.01	86.49
M.S.E.	55.56	55.56	63.49

THIS IS RESULTS WITH YES >=.1

	FULL TREE	k=5	k=30
M.S.E. of YES	13.33	13.33	2.22
M.S.E. of NONE	79.01	79.01	86.49
M.S.E. for Full	55.56	55.56	56.35

THIS IS RESULTS WITH YES >=.05

	FULL TREE	k=5	k=30
M.S.E. of YES	2.22	2.22	2.22
M.S.E. of NONE	85.19	85.19	100.00
M.S.E. for Full	55.56	55.56	65.08

Table 14. Single Tree Results All Patients Leave Out Variables Any Recurrence 2nd Run

SINGLE TREE RESULTS All PATIENTS LEAVE OUT VARIABLES RECURRENCE MORE THAN LOCAL 2nd RUN
TOTAL SET

NONE	YES	PERCENT YES
1078	532	33.04

NUMBER OF ACTUAL YES AND NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
86	40	31.75

PERCENT PREDICTED YES WITH
YES >=.50 IS 19.05 YES >=.15 IS 84.13
YES >=.10 IS 84.13 YES >=.05 IS 88.89

THIS IS RESULTS WITH YES >=.5

	FULL TREE	k=5	k=30
M.S.E. of YES	67.50	67.50	80.00
M.S.E. of NONE	12.79	12.79	2.36
M.S.E. for Full	30.16	30.16	34.13

THIS IS RESULTS WITH YES >=.15

	FULL TREE	k=5	k=30
M.S.E. of YES	17.50	17.50	15.00
M.S.E. of NONE	84.88	84.88	85.88
M.S.E. for Full	63.49	63.49	62.70

THIS IS RESULTS WITH YES >=.10

	FULL TREE	k=5	k=30
M.S.E. of YES	17.50	17.50	15.00
M.S.E. of NONE	84.88	84.88	85.88
M.S.E. for Full	63.49	63.49	62.70

THIS IS RESULTS WITH YES >=.05

	FULL TREE	k=5	k=30
M.S.E. of YES	10.00	10.00	0.00
M.S.E. of NONE	88.37	88.37	100.00
M.S.E. for Full	63.49	63.49	60.32

Table 15. Single Tree Results All Patients Leave Out Variables Recurrence More Than Local

SINGLE TREE All PATIENTS LEAVE OUT VARIABLES ANY RECURRENCE
TOTAL SET

NONE	YES	PERCENT YES
1172	438	27.20

NUMBER OF ACTUAL YES AND NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
90	36	28.57

PERCENT PREDICTED YES WITH
YES >=.50 IS 16.67 YES >=.15 IS 79.37
YES >=.10 IS 79.37 YES >=.05 IS 95.24

THIS IS RESULTS WITH YES >=.5"

	FULL TREE	k=5	k=30
M.S.E. of YES	77.78	77.78	72.22
M.S.E. of NONE	14.44	14.44	13.98
M.S.E. for Full	32.54	32.54	30.95

THIS IS RESULTS WITH YES >=.15"

	FULL TREE	k=5	k=30
M.S.E. of YES	5.56	5.56	5.56
M.S.E. of NONE	73.33	73.33	73.33
M.S.E. for Full	53.97	53.97	53.97

THIS IS RESULTS WITH YES >=.1"

	FULL TREE	k=5	k=30
M.S.E. of YES	5.56	5.56	5.56
M.S.E. of NONE	73.33	73.33	73.33
M.S.E. for Full	53.97	53.97	53.97

THIS IS RESULTS WITH YES >=.05"

	FULL TREE	k=5	k=30
M.S.E. of YES	5.56	5.56	0.00
M.S.E. of NONE	95.56	95.56	100.00
M.S.E. for Full	69.84	69.84	68.25

Table 16. Single Tree Results All Patients Leave Out Variables Recurrence More Than Local 2nd Run

SINGLE TREE All PATIENTS LEAVE OUT VARIABLES RECURRENCE MORE THAN LOCAL 2nd RUN
TOTAL SET
NONE YES PERCENT YES
1172 438 27.20

NUMBER OF ACTUAL YES AND NONE AND PERCENT YES IN RANDOM SAMPLE
NONE YES PERCENT YES
92 34 26.98

PERCENT PREDICTED YES WITH
YES >=.50 IS 12.70 YES >=.15 IS 72.22
YES >=.10 IS 72.22 YES >=.05 IS 95.24

THIS IS RESULTS WITH YES >=.50

	FULL TREE	k=5	k=30
M.S.E. of YES	79.41	79.41	73.53
M.S.E. of NONE	9.78	9.78	9.68
M.S.E. for Full	28.57	28.57	26.98

THIS IS RESULTS WITH YES >=.15

	FULL TREE	k=5	k=30
M.S.E. of YES	8.82	8.82	8.82
M.S.E. of NONE	65.22	65.22	65.22
M.S.E. for Full	50.00	50.00	50.00

THIS IS RESULTS WITH YES >=.10

	FULL TREE	k=5	k=30
M.S.E. of YES	8.82	8.82	8.82
M.S.E. of NONE	65.22	65.22	65.22
M.S.E. for Full	50.00	50.00	50.00

THIS IS RESULTS WITH YES >=.05

	FULL TREE	k=5	k=30
M.S.E. of YES	5.88	5.88	0.00
M.S.E. of NONE	95.65	95.65	100.00
M.S.E. for Full	71.43	71.43	69.84

Table 17. Single Tree Results Limited Patients All Variables Any Recurrence

SINGLE TREE RESULTS LIMITED PATIENTS ANY RECURRENCE
TOTAL SET

NONE	YES	TOTAL	PERCENT YES
1049	170		13.95

NUMBER OF ACTUAL YES, NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
109	17	21.43

PERCENT PREDICTED YES WITH
YES >=.50 IS 17.46 YES >=.15 IS 18.25
YES >=.10 IS 18.25 YES >=.05 IS 19.05

THIS IS RESULTS WITH YES >=.5"

	FULL TREE	k=5	k=30
M.S.E. of YES	52.94	52.94	58.82
M.S.E. of NONE	12.84	9.17	8.62
TOTAL M.S.E	18.25	15.08	15.87

THIS IS RESULTS WITH YES >=.15"

	FULL TREE	k=5	k=30
M.S.E. of YES	47.06	47.06	58.82
M.S.E. of NONE	12.84	20.18	17.19
TOTAL M.S.E	17.46	23.81	25.40

THIS IS RESULTS WITH YES >=.1"

	FULL TREE	k=5	k=30
M.S.E. of YES	47.06	47.06	58.82
M.S.E. of NONE	12.84	20.18	17.19
TOTAL M.S.E	17.46	23.81	25.40

THIS IS RESULTS WITH YES >=.05"

	FULL TREE	k=5	k=30
M.S.E. of YES	47.06	5.88	0.00
M.S.E. of NONE	13.76	41.28	100.00
TOTAL M.S.E	18.25	36.51	35.71

Table 18. Single Tree Results Limited Patients All Variables Recurrence More Than Local

SINGLE TREE RESULTS LIMITED PATIENTS RECURRENCE MORE THAN LOCAL
TOTAL SET

NONE	YES	TOTAL PERCENT YES
1105	114	9.35

NUMBER OF ACTUAL YES, NONE AND PERCENT YES IN RANDOM SAMPLES

NONE	YES	PERCENT YES
113	13	10.32

PERCENT PREDICTED YES WITH
YES >=.50 IS 11.90 YES >=.15 IS 11.90
YES >=.10 IS 11.90 YES >=.05 IS 11.90

THIS IS RESULTS WITH YES >=.5"

	FULL TREE	k=5	k=30
M.S.E. of YES	76.92	92.31	92.31
M.S.E. of NONE	10.62	1.77	1.77
TOTAL M.S.E	17.46	11.11	11.11

THIS IS RESULTS WITH YES >=.15"

	FULL TREE	k=5	k=30
M.S.E. of YES	76.92	61.54	92.31
M.S.E. of NONE	10.62	15.93	13.74
TOTAL M.S.E	17.46	20.63	23.81

THIS IS RESULTS WITH YES >=.1"

	FULL TREE	k=5	k=30
M.S.E. of YES	76.92	61.54	92.31
M.S.E. of NONE	10.62	15.93	13.74
TOTAL M.S.E	17.46	20.63	23.81

THIS IS RESULTS WITH YES >=.5"

	FULL TREE	k=5	k=30
M.S.E. of YES	76.92	46.15	0.00
M.S.E. of NONE	10.62	44.25	100.00
TOTAL M.S.E	17.46	44.44	39.68

Table 19. RF All Patients All Variables Any Recurrence

TREES 300 MTRY = 15

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.062	0.246	12.30
2		0.060	0.248	12.24
4		0.060	0.244	12.11
8		0.062	0.246	12.30
16		0.060	0.242	12.05
32		0.061	0.244	12.17
1	.70 .30	0.083	0.218	12.73
2		0.083	0.209	12.48
4		0.087	0.211	12.80
8		0.082	0.209	12.36
16		0.090	0.212	12.36
32		0.082	0.210	12.42
1	.90 .10	0.195	0.160	18.32
2		0.199	0.154	18.45
4		0.210	0.154	19.13
8		0.213	0.152	19.32
16		0.213	0.152	18.26
32		0.203	0.160	18.88
1	.95 .05	0.313	0.130	25.22
2		0.331	0.133	26.58
4		0.346	0.122	27.20
8		0.344	0.120	27.02
16		0.330	0.126	26.21
32		0.310	0.133	25.16
1	.97 .03	0.005	0.984	66.09
2		0460	0.098	34.04
4		0.460	0.098	34.11
8				
16		0.465	0.103	34.53
32		0.400	0.112	30.50
1	.99 .01	0.665	0.066	46.71
2		0.642	0.062	45.03
4		0.650	0.062	45.59
8		0.705	0.058	49.13
16		0.641	0.055	44.72
32		0.607	0.073	43.04

MTRY 13

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.059	0.241	11.93
2		0.060	0.244	12.11
4		0.059	0.244	12.05
8		0.061	0.248	12.30
16		0.063	0.246	12.36
32		0.061	0.244	12.17
1	.70 .30	0.087	0.203	12.55
2		0.081	0.211	12.36
4		0.086	0.209	12.67
8		0.088	0.199	12.48
16		0.086	0.214	12.86
32		0.082	0.205	12.24
1	.90 .10	0.231	0.154	20.56
2		0.200	0.160	18.70
4		0.211	0.160	19.07
8		0.208	0.160	19.19
16		0.219	0.154	19.63
32		0.217	0.150	19.50
1	.95 .05	0.351	0.128	27.70
2		0.340	0.120	26.77
4		0.358	0.115	27.76
8		0.313	0.130	25.22
16		0..356	0.117	27.70
32		0.304	0.130	24.66
1	.97 .03	0.434	0.010	32.36
2		0.458	0.105	34.16
4		0.468	0.098	34.53
8		0.458	0.094	33.79
16		0.468	0.010	34.60
32		0.415	0.113	31.49
1	.99 .01	0.721	0.055	50.06
2		0.709	0.055	49.25
4		0.647	0.066	45.53
8		0.670	0.073	47.27
16		0.707	0.062	49.38
32		0.628	0.066	44.22

“Table 19 cont”

MTRY 10

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.056	0.250	11.99
2		0.059	0.248	12.17
4		0.059	0.246	12.11
8		0.062	0.248	12.36
16		0.065	0.242	12.36
32		0.063	0.244	12.30
1	.70 .30	0.087	0.195	12.34
2		0.088	0.195	12.36
4		0.096	0.209	13.35
8		0.096	0.207	13.23
16		0.096	0.210	13.42
32		0.092	0.211	13.11
1	.90 .10	0.212	0.156	19.32
2		0.229	0.156	20.50
4		0.230	0.156	20.56
8		0.225	0.147	19.94
16		0.231	0..152	20.50
32		0.250	0.156	21.86
1	.95 .05	0.412	0.109	31.18
2		0.366	0.122	28.57
4		0.372	0.113	28.63
8		0.367	0.120	28.57
16		0.378	0.125	29.46
32		0.348	0.126	27.45
1	.97 .03	0.586	0.085	42.05
2		0.587	0.085	42.11
4		0.549	0.081	39.44
8		0.519	0.085	37.52
16		0.518	0.092	37.70
32		0.512	0.088	37.20
1	.99 .01	0.740	0.055	51.37
2		0.689	0.058	48.07
4		0.792	0.041	54.41
8		0.749	0.047	51.68
16		0.686	0.049	47.58
32		0.794	0.038	54.41

“Table 19 cont”

MTRY 7

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.058	0.254	12.30
2		0.058	0.254	12.30
4		0.060	0.248	12.24
8		0.061	0.246	12.24
16		0.062	0.246	12.30
32		0.062	0.246	12.30
1	.70 .30	0.099	0.207	13.48
2		0.103	0.203	13.60
4		0.099	0.199	13.23
8		0.114	0.197	14.16
16		0.108	0.201	13.85
32		0.107	0.209	14.04
1	.90 .10	0.241	0.143	20.87
2		0.278	0.143	23.35
4		0.264	0.145	22.48
8		0.267	0.143	22.61
16		0.307	0.128	24.78
32		.0289	0.141	24.04
1	.95 .05	0.479	0.090	35.03
2		0.486	0.085	35.34
4		0.567	0.073	40.37
8				
16		0.487	0.090	35.59
32		0.450	0.094	33.23
1	.97 .03	0.635	0.056	44.41
2		0.610	0.071	43.23
4		0.663	0.058	48.07
8		0.694	0.049	48.07
16		0.648	0.055	45.22
32		0.584	0.075	41.61
1	.99 .01	0.802	0.026	54.60
2		0.796	0.034	54.41
4		0.840	0.030	57.27
8		0.844	0.030	57.52
16		0.849	0.028	57.76
32		0.850	0.026	57.76

“Table 19 cont”

MTRY 4

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.058	0.259	12.48
2		0.062	0.265	12.92
4		0.062	0.261	12.80
8		0.063	0.252	12.55
16		0.073	0.252	13.23
32		0.072	0.254	13.23
1	.70 .30	0.133	0.195	15.34
2		0.135	0.199	15.59
4		0.135	0.195	15.53
8		0.136	0.193	15.53
16		0.146	0.197	16.27
32		0.149	0.182	16.02
1	.90 .10	0.471	0.103	34.97
2		0.498	0.102	36.71
4		0.433	0.111	32.67
8		0.439	0.113	33.11
16		0.410	0.115	31.24
32		0.455	0.100	33.79
1	.95 .05	0.675	0.051	46.89
2		0.653	0.055	45.53
4		0.677	0.51	47.02
8		0.658	0.058	45.65
16		0.731	0.47	50.50
32		0.637	0.058	44.60
1	.97 .03	0.770	0.043	52.98
2		0.824	0.030	56.15
4		0.865	0.034	59.07
8		0.867	0.028	59.01
16		0.767	0.030	52.36
32		0.857	0.029	58.26
1	.99 .01	0.939	0.015	63.35
2		0.954	0.017	64.41
4		0.920	0.017	62.17
8		0.956	0.015	64.53
16		0.918	0.015	61.99
32		0.950	0.015	64.10

“Table 19 cont”

MTRY 2

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.070	0.278	13.85
2		0.069	0.278	13.79
4		0.068	0.269	13.42
8		0.083	0.289	15.09
16		0.067	0.278	13.66
32		0.082	0.291	15.09
1	.70 .30	0.234	0.167	21.18
2		0.245	0.173	22.11
4		0.231	0.180	21.43
8		0.260	0.167	22.92
16		0.233	0.162	20.93
32		0.245	0.158	21.61
1	.90 .10	0.681	0.053	47.33
2		0.606	0.077	43.11
4		0.718	0.045	49.57
8		0.656	0.056	45.78
16		0.682	0.055	47.45
32		0.768	0.045	52.92
1	.95 .05	0.895	0.024	60.75
2		0.869	0.030	59.19
4		0.946	0.013	63.79
8		0.877	0.024	59.50
16		0.911	0.015	61.49
32		0.922	0.015	62.24
1	.97 .03			
2		0.970	0.008	65.22
4		0.964	0.004	64.66
8		0.967	0.006	64.91
16		0.968	0.009	65.09
32		0.996	0.000	66.71
1	.99 .01	0.999	0.000	66.89
2		0.998	0.000	66.83
4		0.994	0.008	66.77
8		0.998	0.000	66.83
16		1.000	0.002	67.02
32		0.994	0.000	66.52

“Table 19 cont”

MTRY 1

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.122	0.555	26.52
2		0.091	0.624	26.71
4		0.130	0.519	25.84
8		0.127	0.538	26.27
16		0.157	0.485	26.52
32				
1	.70 .30	0.381	0.194	31.93
2		0.459	0.141	35.40
4		0.420	0.132	32.48
8		0.481	0.126	36.40
16		0.444	0.152	34.78
32		0.422	0.158	3.48
1	.90 .10	0.973	0.008	65.40
2		0.987	0.002	66.15
4		0.959	0.015	64.72
8		0.979	0.004	65.65
16		0.992	0.008	66.65
32		0.981	0.002	65.78
1	.95 .05	1.000	0.000	66.96
2		1.000	0.000	66.96
4		0.999	0.000	66.89
8		1.000	0.000	66.96
16		0.998	0.000	66.83
32		0.999	0.000	66.89
1	.97 .03	1.000	0.000	66.96
2		1.000	0.000	66.96
4		1.000	0.000	66.96
8		1.000	0.000	66.96
16		1.000	0.000	66.96
32		1.000	0.000	66.96
1	.99 .01	1.000	0.000	66.96
2		1.000	0.000	66.96
4		1.000	0.000	66.96
8		1.000	0.000	66.96
16		1.000	0.000	66.96
32		1.000	0.000	66.96

“Table 19 cont”

Table 20. RF All Patients All Variables Recurrence More Than Local

TREES 300 MTRY = 15

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.033	0.295	10.43
2		0.031	0.299	10.43
4		0.032	0.304	10.62
8		0.036	0.301	10.81
16		0.032	0.292	10.25
32		0.035	0.299	10.68
1	.70 .30	0.046	0.274	10.81
2		0.047	0.276	10.93
4		0.049	0.274	11.03
8		0.049	0.274	10.99
16		0.045	0.276	10.81
32		0.045	0.279	10.87
1	.90 .10	0.137	0.240	16.46
2		0.131	0.249	16.34
4		0.142	0.244	17.02
8		0.131	0.235	15.90
16		0.097	0.260	14.16
32		0.073	0.267	12.55
1	.95 .05	0.317	0.201	28.57
2		0.311	0.192	27.89
4		0.296	0.203	27.08
8		0.272	0.189	24.97
16		0.216	0.212	21.55
32		0.159	0.231	17.83
1	.97 .03	0.427	0.151	35.22
2		0.418	0.178	35.28
4		0.430	0.162	35.71
8				
16		0.349	0.174	30.12
32		0.238	0.212	23.11
1	.99 .01	0.638	0.116	49.63
2		0.647	0.094	49.63
4		0.619	0.119	48.32
8		0.582	0.126	45.78
16		0.536	0.128	42.48
32		0.434	0.155	35.84

MTRY 13

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.032	0.295	10.31
2		0.032	0.295	10.31
4		0.032	0.299	10.50
8		0.032	0.292	10.25
16		0.032	0.297	10.37
32		0.034	0.299	10.62
1	.70 .30	0.049	0.276	11.06
2		0.045	0.276	10.81
4		0.048	0.274	10.93
8		0.047	0.274	10.87
16		0.045	0.279	10.87
32		0.044	0.276	10.68
1	.90 .10	0.154	0.247	17.89
2		0.140	0.242	16.77
4		0.140	0.240	16.65
8		0.132	0.244	16.27
16		0.106	0.249	14.47
32		0.083	0.265	13.23
1	.95 .05	0.295	0.199	26.89
2		0.291	0.199	26.65
4		0.288	0.201	26.40
8		0.279	0.199	25.71
16		0.223	0.212	21.99
32		0.156	0.242	17.95
1	.97 .03	0.409	0.169	34.35
2		0.424	0.164	35.34
4		0.433	0.164	35.96
8		0.371	0.180	31.93
16		0.326	0.199	29.13
32		0.218	0.212	21.68
1	.99 .01	0.624	0.112	48.45
2		0.644	0.105	49.75
4		0.625	0.107	48.45
8		0.591	0.102	45.84
16		0.522	0.128	41.9
32		0.420	0.169	35.16

“Table 20 cont”

MTRY 10

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.031	0.299	10.37
2		0.032	0.299	10.43
4		0.034	0.299	10.62
8		0.031	0.301	10.43
16		0.030	0.304	10.43
32		0.032	0.297	10.37
1	.70 .30	0.046	0.276	10.87
2		0.049	0.274	10.99
4		0.046	0.276	10.87
8		0.045	0.276	10.81
16		0.046	0.279	10.93
32		0.044	0.276	10.68
1	.90 .10	0.140	0.247	16.89
2		0.137	0.251	16.83
4		0.140	0.235	16.52
8		0.132	0.235	16.02
16		0.097	0.258	14.10
32		0.078	0.269	12.98
1	.95 .05	0.302	0.178	26.83
2		0.287	0.196	26.21
4		0.288	0.215	26.77
8		0.272	0.196	25.16
16		0.242	0.208	23.29
32		0.142	0.240	16.89
1	.97 .03	0.416	0.167	34.78
2		0.414	0.162	34.53
4		0.416	0.176	35.09
8		0.391	0.174	33.17
16		0.336	0.194	29.69
32		0.213	0.219	21.49
1	.99 .01	0.621	0.112	48.26
2		0.633	0.112	49.13
4		0.631	0.110	48.88
8		0.615	0.112	47.83
16		0.518	0.123	41.06
32		0.456	0.142	37.02

“Table 20 cont”

MTRY 7

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.032	0.311	10.81
2		0.031	0.306	10.56
4		0.028	0.301	1025
8		0.031	0.304	10.50
16		0.029	0.306	10.43
32		0.032	0.295	10.31
1	.70 .30	0.045	0.276	10.81
2		0.047	0.275	10.93
4		0.046	0.276	10.87
8		0.046	0.276	10.87
16		0.038	0.276	10.31
32		0.041	0.281	10.62
1	.90 .10	0.133	0.249	16.46
2		0.142	0.247	17.02
4		0.134	0.247	16.46
8		0.124	0.251	15.84
16		0.107	0.256	14.72
32		0.074	0.260	12.48
1	.95 .05	0.283	0.201	26.09
2		0.295	0.196	26.83
4		0.284	0.192	25.90
8				
16		0.198	0.221	2.430
32		0.148	0.235	17.20
1	.97 .03	0.411	0.174	34.66
2		0.417	0.174	35.09
4		0.397	0.178	33.73
8		0.377	0.164	31.93
16		0.331	0.183	29.07
32		0.249	0.208	23.79
1	.99 .01	0.648	0.096	49.81
2		0.620	0.114	48.26
4		0.613	0.114	47.70
8		0.595	0.137	47.02
16		0.532	0.139	42.48
32		0.444	0.160	36.65

“Table 20 cont”

MTRY 4

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.022	0.322	10.37
2		0.025	0.313	10.31
4		0.023	0.320	10.37
8		0.024	0.320	10.43
16		0.026	0.315	10.50
32		0.027	0.317	10.62
1	.70 .30	0.040	0.283	10.62
2		0.044	0.276	10.68
4		0.043	0.281	10.75
8		0.041	0.279	10.56
16		0.039	0.285	10.62
32		0.038	0.281	10.43
1	.90 .10	0.0131	0.249	16.27
2		0.134	0.256	16.71
4		0.133	0.247	16.40
8		0.119	0.258	15.71
16		0.103	0.258	14.53
32		0.084	0.267	13.35
1	.95 .05	0.263	0.199	24.53
2		0.259	0.203	24.35
4		0.265	0.196	24.60
8		0.252	0.208	23.98
16		0.210	0.217	21.18
32		0.177	0.233	19.25
1	.97 .03	0.362	0.164	30.81
2		0.387	0.174	32.86
4		0.340	0.180	29.63
8		0.357	0.180	30.87
16		0.314	0.178	27.70
32		0.271	0.215	25.59
1	.99 .01	0.581	0.087	44.66
2		0.594	0.096	45.84
4		0.573	0.121	44.97
8		0.580	0.114	45.34
16		0.510	0.110	40.12
32		0.509	0.139	40.81

“Table 20 cont”

MTRY 2

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.010	0.361	10.56
2		0.010	0.368	10.75
4		0.010	.365	10.68
8		0.010	0.363	10.62
16		0.009	0.368	10.62
32		0.008	0.420	11.99
1	.70 .30	0.031	0.308	10.62
2		0.031	0.304	10.50
4		0.034	0.308	10.87
8		0.026	0.311	10.31
16		0.028	0.306	10.37
32		0.031	0.297	10.31
1	.90 .10	0.094	0.253	13.73
2		0.092	0.247	13.42
4		0.092	0.263	13.85
8		0.092	0.256	13.66
16		0.084	0.260	13.17
32		0.074	0.265	12.61
1	.95 .05	0.171	0.233	18.76
2		0.208	0.219	21.12
4		0.175	0.231	19.01
8		0.203	0.212	20.56
16		0.165	0.228	18.20
32		0.137	0.242	16.58
1	.97 .03			
2		0.281	0.194	25.71
4		0.299	0.189	26.89
8		0.270	0.189	24.78
16		0.265	0.210	25.03
32		0.224	0.210	22.05
1	.99 .01	0.460	0.139	37.27
2		0.503	0.135	40.31
4		0.463	0.151	37.83
8		0.453	0.137	36.71
16		0.482	0.132	38.70
32		0.455	0.146	37.08

“Table 20 cont”

MTRY 1

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E YES	TOTAL ERROR
1	.51 .49	0.000	1.000	27.20
2		0.000	1.000	27.20
4		0.000	1.000	27.20
8		0.000	1.000	27.20
16		0.000	1.000	27.20
32		0.000	1.000	27.20
1	.70 .30	0.003	0.913	25.03
2		0.004	0.925	25.47
4		0.008	0.598	16.83
8		0.005	0.847	23.42
16		0.003	0.840	23.11
32		0.003	0.973	26.65
1	.90 .10	0.049	0.288	11.37
2		0.050	0.285	11.43
4		0.051	0.281	11.37
8		0.048	0.283	11.18
16		0.054	0.283	11.61
32		0.047	0.279	10.99
1	.95 .05	0.078	0.263	12.80
2		0.076	0.251	12.36
4		0.082	0.260	13.04
8		0.079	0.265	12.92
16		0.080	0.258	12.86
32		0.071	0.265	12.36
1	.97 .03	0.107	0.244	14.41
2		0.138	0.249	16.83
4		0.124	0.240	15.53
8		0.110	0.237	14.47
16		0.116	0.249	15.22
32		0.101	0.247	14.04
1	.99 .01	0.262	0.212	24.84
2		0.260	0.212	24.72
4		0.312	0.203	28.26
8		0.212	0.210	21.12
16		0.201	0.224	20.75
32		0.253	0.212	24.22

“Table 20 cont”

Table 21. RF All Patients Leave Out STAGE GROUP, DETEXT AND TYPCAS Any Recurrence

TREES 300 MTRY = 12

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.091	0.863	34.60
2		0.083	0.850	33.66
4		0.077	0.861	33.60
8		0.073	0.860	33.35
16		0.079	0.850	33.35
32		0.077	0.855	33.42
1	.70 .30	0.220	0.647	36.09
2		0.212	0.645	35.53
4		0.208	0.668	35.96
8		0.207	0.654	35.47
16		0.202	0.664	35.47
32		0.189	0.673	34.91
1	.90 .10			
2		0.550	0.325	47.58
4		0.512	0.355	46.02
8		0.528	0.344	46.71
16		0.526	0.338	46.40
32		0.459	0.370	42.98
1	.95 .05	0.737	0.184	55.47
2		0.772	0.156	56.89
4		0.764	0.167	56.71
8		0.734	0.180	55.09
16		0.737	0.177	55.16
32		0.683	0.220	52.98
1	.97 .03	0.854	0.094	60.31
2		0.842	0.102	59.75
4		0.851	0.102	60.31
8		0.859	0.102	60.87
16		0.838	0.102	59.44
32		0.806	0.145	58.76
1	.99 .01	0.951	0.036	64.84
2		0.958	0.036	65.34
4		0.930	0.051	63.98
8		0.949	0.038	64.78
16		0.941	0.023	63.73
32		0.917	0.068	63.60

“Table 21 cont”

MTRY 10

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.079	0.867	33.91
2		0.079	0.865	33.85
4		0.069	0.874	33.48
8		0.087	0.861	34.29
16		0.074	0.876	33.91
32		0.074	0.855	33.23
1	.70 .30	0.214	0.658	36.09
2		0.205	0.679	36.15
4		0.199	0.671	35.53
8		0.200	0.673	35.65
16		0.197	0.654	34.78
32		0.192	0.678	35.28
1	.90 .10	0.522	0.342	46.27
2		0.492	0.370	54.16
4		0.504	0.365	45.89
8		0.494	0.367	54.16
16		0.507	0.367	46.09
32		0.446	0.417	43.66
1	.95 .05	0.711	0.214	54.66
2		0.724	0.216	55.65
4		0.749	0.177	55.96
8		0.707	0.194	53.73
16		0.704	0.212	54.16
32		0.647	0.252	51.61
1	.97 .03	0.829	0.135	60.00
2		0.837	0.120	60.00
4		0.827	0.098	58.63
8		0.832	0.124	59.81
16		0.829	0.010	58.82
32		0.766	0.143	56.02
1	.99 .01	0.933	0.049	64.10
2		0.947	0.041	64.78
4		0.951	0.041	65.03
8		0.942	0.053	64.84
16		0.935	0.043	64.04
32		0.916	0.066	63.48

“Table 21 cont”

MTRY 4

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.067	0.861	32.92
2		0.071	0.861	33.17
4		0.060	0.874	32.92
8		0.060	0.876	32.98
16		0.055	0.886	32.92
32		0.054	0.887	32.92
1	.70 .30	0.158	0.735	35.84
2		0.162	0.744	35.47
4		0.156	0.739	34.84
8		0.159	0.733	34.84
16		0.151	0.731	34.29
32		0.148	0.752	34.78
1	.90 .10	0.404	0.425	41.12
2		0.402	0.453	41.86
4		0.409	0.429	41.55
8		0.405	0.432	41.43
16		0.413	0.434	41.99
32		0.371	0.472	40.43
1	.95 .05	0.617	0.295	51.06
2		0.603	0.293	50.06
4		0.639	0.269	51.68
8		0.614	0.261	49.75
16		0.612	0.265	49.75
32		0.586	0.291	48.86
1	.97 .03	0.725	0.197	55.09
2		0.740	0.182	55.59
4		0.753	0.165	55.90
8		0.716	0.175	53.73
16		0.758	0.167	56.27
32		0.652	0.222	50.99
1	.99 .01	0.859	0.094	60.62
2		0.904	0.071	62.86
4		0.892	0.086	62.61
8		0.905	0.068	62.86
16		0.853	0.083	59.88
32		0.832	0.122	59.75

“Table 21 cont”

MTRY 2

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.028	0.938	32.86
2		0.037	0.930	33.23
4		0.032	0.925	32.73
8		0.040	0.912	32.80
16		0.037	0.923	32.98
32		0.039	0.902	32.42
1	.70 .30	0.119	0.795	34.22
2		0.109	0.820	34.35
4		0.116	0.799	34.16
8		0.105	0.805	33.60
16		.115	0.799	34.10
32		0.103	0.806	33.54
1	.90 .10	0.293	0.534	37.27
2		0.287	0.551	37.39
4		0.301	0.536	37.83
8		0.307	0.530	38.07
16		0.310	0.523	38.01
32		0.286	0.568	37.89
1	.95 .05	0.463	0.397	44.10
2		0.412	0.414	41.24
4		0.438	0.434	43.66
8		0.414	0.444	42.36
16		0.442	0.405	42.8
32		0.420	0.421	42.05
1	97 .03			
2		0.567	0.314	48.32
4		0.558	0.323	48.07
8		0.587	0.310	49.57
16		0.552	0.323	47.64
32		0.496	0.365	45.28
1	.99 .01	0.762	0.162	56.34
2		0.747	0.188	56.21
4		0.738	0.173	55.16
8		0.752	0.182	56.40
16		0.729	0.201	55.47
32		0.675	0.237	53.04

“Table 21 cont”

Table 22. RF All Patients Leave Out STAGE GROUP, DETEXT And TYPCAS Recurrence More Than Local

TREES 300 MTRY = 12

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.027	0.986	28.82
2		0.022	0.986	28.45
4		0.024	0.989	28.63
8		0.023	0.986	28.51
16		0.020	0.989	28.32
32		0.018	0.979	27.95
1	.70 .30	0.142	0.849	33.48
2		0.132	0.836	32.36
4		0.151	0.817	33.23
8		0.138	0.831	32.67
16		0.131	0.854	32.80
32		0.108	0.868	31.43
1	.90 .10	0.566	0.358	50.93
2		0.558	0.347	50.06
4		0.546	0.349	49.25
8		0.539	0.370	49.32
16		0.533	0.390	49.44
32		0.434	0.463	44.22
1	.95 .05	0.751	0.185	59.69
2		0.758	0.194	60.43
4		0.746	0.196	59.63
8		0.764	0.189	60.75
16		0.747	0.167	58.88
32		0.657	0.269	55.16
1	.97 .03	0.853	0.096	64.72
2		0.857	0.123	65.71
4		0.868	0.103	65.96
8		0.846	0.091	64.04
16		0.836	0.105	63.73
32		0.778	0.169	61.18
1	.99 .01	0.944	0.050	70.12
2		0.936	0.039	69.19
4		0.943	0.039	69.69
8		0.942	0.057	70.12
16		0.942	0.041	69.69
32		0.897	0.080	67.45

MTRY 10

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.025	0.989	27.70
2		0.019	0.986	28.20
4		0.028	0.991	29.01
8		0.024	0.993	28.76
16		0.023	0.989	28.57
32		0.019	0.975	27.89
1	.70 .30	0.119	0.852	31.86
2		0.130	0.856	32.73
4		0.133	0.863	33.17
8		0.142	0.861	33.79
16		0.134	0.840	32.61
32		0.096	0.904	31.61
1	.90 .10	0.534	0.393	49.57
2		0.544	0.356	49.25
4		0.526	0.365	48.20
8		0.532	0.363	48.63
16		0.515	0.374	47.70
32		0.437	0.454	44.16
1	.95 .05	0.747	0.169	59.01
2		0.762	0.174	60.19
4		0.740	0.174	58.57
8		0.724	0.192	57.89
16		0.706	0.189	56.58
32		0.642	0.244	53.35
1	.97 .03	0.852	0.123	65.34
2		0.840	0.105	63.98
4		0..843	0.121	64.66
8		0.860	0.130	66.15
16		0.821	0.121	63.04
32		0.778	0.155	60.87
1	.99 .01	0.940	0.053	69.88
2		0.940	0.053	69.88
4		0.941	0.046	69.75
8		0.939	0.046	69.63
16		0.926	0.434	68.57
32		0.869	0.075	35.34

“Table 22 cont”

MTRY 4

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.012	0.998	28.01
2		0.012	0.000	28.07
4		0.010	0.997	27.89
8		0.009	0.998	27.76
16		0.012	0.995	27.95
32		0.009	0.993	27.64
1	.70 .30	0.073	0.929	30.56
2		0.070	0.916	30.00
4		0.067	0.922	29.94
8		0.077	0.913	30.43
16		0.067	0.922	29.94
32		0.051	0.945	29.44
1	.90 .10	0.386	0.509	41.93
2		0.502	0.393	42.30
4		0.381	0.495	41.24
8		0.408	0.516	43.73
16		0.380	0.505	41.37
32		0.311	0.578	38.39
1	.95 .05	0.624	0.279	52.98
2		0.636	0.288	54.10
4		0.626	0.290	53.48
8		0.615	0.285	52.55
16		0.587	0.317	51.37
32		0.519	0.363	47.64
1	.97 .03	0.747	0.189	59.57
2		0.744	0.194	59.44
4		0.751	0.167	59.19
8		0.730	0.212	58.94
16		0.686	0.219	55.90
32		0.676	0.240	55.71
1	.99 .01	0.880	0.098	66.71
2		0.875	0.091	66.15
4		0.889	0.071	66.58
8		0.887	0.094	67.08
16		0.874	0.089	66.02
32		0.852	0.103	64.78

“Table 22 cont”

MTRY 2

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.002	1.000	27.33
2		0.000	1.000	27.20
4		0.002	1.000	27.33
8		0.002	1.000	27.33
16		0.003	1.000	27.39
32		0.0	1.000	27.20
1	.70 .30	0.022	0.989	28.51
2		0.016	0.990	28.14
4		0.026	0.975	28.39
8		0.023	0.982	28.39
16		0.019	0.981	28.07
32		0.019	0.980	28.07
1	.90 .10	0.206	0.733	34.97
2		0.207	0.747	35.40
4		0.212	0.744	35.71
8		0.220	0.721	35.65
16		0.212	0.740	35.59
32		0.193	0.758	34.66
1	.95 .05	0.390	0.532	42.86
2		0.410	0.511	43.79
4		0.387	0.514	42.17
8		0.381	0.509	41.55
16		0.359	0.550	41.12
32		0.349	0.573	40.99
1	97 .03			
2		0.510	0.390	47.76
4		0.534	0.365	48.88
8		0.512	0.384	47.70
16		0.495	0.381	46.40
32		0.462	0.436	45.53
1	.99 .01	0.723	0.226	58.76
2		0.718	0.228	58.51
4		0.716	0.233	58.45
8		0.756	0.176	59.81
16		0.707	0.203	57.02
32		0.694	0.228	56.71

“Table 22 cont”

Table 23. RF Limited Patients Any Recurence

TREES 300 MTRY = 12

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.011	0.894	13.45
2		0.015	0.876	13.54
4		0.015	0.894	13.78
8		0.015	0.871	13.45
16		0.015	0.841	13.04
32		0.017	0.876	13.70
1	.70 .30	0.051	0.759	14.93
2		0.051	0.747	14.85
4		0.050	0.747	14.68
8		0.049	0.759	14.77
16		0.048	0.747	14.52
32		0.044	0.782	14.68
1	.90 .10	0.142	0.647	21.25
2		0.153	0.624	21.82
4		0.135	0.624	20.34
8		0.138	0.641	20.84
16		0.133	0.671	20.84
32		0.086	0.676	16.82
1	.95 .05	0.262	0.524	29.86
2		0.261	0.500	29.45
4		0.250	0.512	28.63
8		0.241	0.547	28.38
16		0.231	0.576	27.89
32		0.169	0.618	23.13
1		0.370	0.418	37.65
2	.97 .03	0.387	0.453	39.62
4		0.389	0.459	39.87
8		0.369	0.436	37.82
16		0.296	0.529	32.81
32		0.226	0.565	27.32
1	.99 .01	0.591	0.288	54.88
2		0.584	0.329	54.88
4		0.604	0.294	56.11
8		0.570	0.312	53.40
16		0.524	0.341	49.88
32		0.431	0.382	42.41

MTRY 7

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.008	0.888	13.04
2		0.010	0.900	13.45
4		0.016	0.859	13.37
8		0.012	0.871	13.21
16		0.015	0.894	13.78
32		0.014	0.882	13.54
1	.70 .30	0.050	0.776	15.09
2		0.051	0.765	15.09
4		0.046	0.759	14.52
8		0.049	0.771	14.93
16		0.045	0.776	14.68
32		0.038	0.794	14.36
1	.90 .10	0.133	0.624	20.10
2		0.144	0.641	21.33
4		0.316	0.635	20.59
8		0.142	0.612	20.75
16		0.119	0.647	19.28
32		0.092	0.676	17.39
1	.95 .05	0.241	0.524	28.05
2		0.238	0.571	28.47
4		0.239	0.576	28.63
8		0.234	0.553	28.81
16		0.195	0.565	24.69
32		0.159	0.635	22.56
1	.97 .03	0.355	0.465	37.00
2		0.346	0.435	35.85
4		0.337	0.429	34.95
8		0.323	0.453	34.13
16		0.283	0.512	31.50
32		0.232	0.535	27.40
1	.99 .01	0.573	0.300	53.49
2		0.559	0.282	52.01
4		0.558	0.312	52.34
8		0.537	0.318	50.62
16		0.499	0.347	47.74
32		0.424	0.415	42.25

“Table 23 cont”

MTRY 4

T.N.	CUTOFF N Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51 .49	0.005	0.953	13.70
2		0.009	0.924	13.62
4		0.008	0.912	13.37
8		0.006	0.918	13.29
16		0.007	0.918	13.37
32		0.009	0.947	13.95
1	.70 .30	0.039	0.806	14.60
2		0.037	0.788	13.19
4		0.034	0.812	14.27
8		0.035	0.800	14.19
16		0.037	0.824	14.68
32		0.027	0.818	13.70
1	.90 .10	0.125	0.653	19.85
2		0.125	0.671	20.10
4		0.123	0.629	19.77
8		0.114	0.653	18.95
16		0.111	0.665	18.79
32		0.074	0.700	16.16
1	.95 .05	0.213	0.559	26.09
2		0.209	0.518	25.18
4		0.216	0.576	26.66
8		0.200	0.582	25.59
16		0.178	0.571	23.30
32		0.130	0.665	20.43
1	.97 .03	0.293	0.482	32.40
2		0.285	0.512	31.67
4		0.272	0.512	30.52
8		0.301	0.500	32.90
16		0.276	0.482	30.43
32		0.205	0.571	25.59
1	.99 .01	0.488	0.365	47.09
2		0.519	0.341	49.38
4		0.494	0.359	47.50
8		0.449	0.382	43.97
16		0.406	0.412	40.69
32		0.346	0.429	35.77

“Table 23 cont”

Table 24. RF Limited Patients Recurrence More Than Local

TREES 300 MTRY = 12

T.N.	CUTOFF N	Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51	.49	0.002	1.000	9.52
2			0.002	1.000	9.52
4			0.002	1.000	9.52
8			0.003	1.000	9.60
16			0.001	1.000	9.43
32			0.001	1.000	9.43
1	.70	.30	0.014	1.000	10.58
2			0.008	1.000	10.09
4			0.009	0.991	10.09
8			0.012	1.000	10.42
16			0.006	1.000	. .93
32			0.007	1.000	10.01
1	.90	.10	0.088	0.921	16.57
2			0.081	0.912	15.91
4			0.074	0.921	15.34
8			0.077	0.912	15.50
16			0.050	0.921	13.13
32			0.033	0.965	12.06
1	.95	.05	0.260	0.763	27.97
2			0.252	0.772	30.02
4			0.233	0.789	28.47
8			0.226	0.807	28.06
16			0.156	0.851	22.07
32			0.102	0.912	17.80
1	.97	.03	0.364	0.649	39.05
2			0.385	0.640	40.85
4			0.370	0.623	39.38
8			0.332	0.693	36.59
16			0.285	0.737	32.73
32			0.189	0.842	25.02
1	.99	.01	0.597	0.447	58.33
2			0.615	0.430	59.80
4			0.602	0.404	58.33
8			0.565	0.491	55.78
16			0.501	0.500	50.12
32			0.389	0.623	41.10

MTRY 7

T.N.	CUTOFF N	CUTOFF Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51	.49	0.002	1.000	9.52
2			0.001	1.000	9.43
4			0.001	1.000	9.43
8			0.001	1.000	9.43
16			0.000	1.000	9.35
32			0.000	1.000	9.35
1	.70	.30	0.008	1.000	10.09
2			0.008	1.000	10.09
4			0.009	1.000	1017
8			0.008	1.000	10.09
16			0.007	1.000	10.01
32			0.006	1.000	9.93
1	.90	.10	0.077	0.921	15.59
2			0.075	0.938	15.59
4			0.062	0.930	14.36
8			0.062	0.939	14.44
16			0.040	0.947	12.47
32			0.031	0.965	11.81
1	.95	.05	0.235	0.772	28.55
2			0.197	0.781	25.18
4			0.224	0.763	27.48
8			0.187	0.816	24.61
16			0.136	0.886	20.59
32			0.086	0.930	16.49
1	.97	.03	0.353	0.684	38.31
2			0.343	0.632	36.92
4			0.350	0.693	38.23
8			0.305	0.711	35.29
16			0.263	0.711	30.52
32			0.167	0.933	22.89
1	.99	.01	0.553	0.474	54.55
2			0.564	0.482	55.70
4			0.578	0.412	56.28
8			0.535	0.447	52.67
16			0.437	0.596	45.20
32			0.376	0.596	39.70

“Table 24 cont”

MTRY 4

T.N.	CUTOFF N	CUTOFF Y	M.S.E. NONE	M.S.E. YES	TOTAL ERROR
1	.51	.49	0.000	1.000	9.35
2			0.000	1.000	9.35
4			0.000	1.000	9.35
8			0.000	1.000	9.35
16			0.000	1.000	9.35
32			0.000	1.000	9.35
1	.70	.30	0.006	1.000	9.93
2			0.005	1.000	9.76
4			0.006	1.000	9.93
8			0.006	1.000	9.93
16			0.001	1.000	9.43
32			0.002	1.000	9.52
1	.90	.10	0.054	0.956	13.86
2			0.057	0.956	14.11
4			0.049	0.939	13.21
8			0.046	0.930	12.88
16			0.033	0.965	12.06
32			0.023	0.982	11.24
1	.95	.05	0.157	0.833	22.07
2			0.153	0.860	21.90
4			0.166	0.851	22.97
8			0.127	0.860	19.52
16			0.097	0.904	17.23
32			0.058	0.939	14.03
1	.97	.03	0.243	0.754	29.04
2			0.253	0.746	29.94
4			0.260	0.781	30.84
8			0.243	0.746	28.96
16			0.157	0.886	22.56
32			0.128	0.904	20.02
1	.99	.01	0.473	0.561	48.15
2			0.491	0.526	49.47
4			0.446	0.526	45.37
8			0.433	0.570	44.63
16			0.348	0.649	37.65
32			0.280	0.693	31.83

“Table 24 cont”

Table 25. Tables of Direct Comparisons of Random Forests and Single Tree for the Six Different Groups

ALL PATIENTS ALL VARIABLES ANY RECURENCE

1st RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	34.13	46.51	7.50
"FULL TREE	11.11	6.98	20.00
"k=5	11.11	6.98	20.00
"k=30	7.87	4.65	14.63

2nd RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	31.75	46.25	6.52
"FULL TREE	11.90	7.5	19.57
"k=5	11.90	7.5	19.57
"k=30	9.60	7.5	13.33

ALL PATIENTS ALL VARIABLES RECURRENCE MORE THAN LOCAL

1st RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	30.16	36.14	18.60
"FULL TREE	9.52	2.41	23.26
"k=5	9.52	2.41	23.26
"k=30	5.69	1.20	15.00

2nd RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	38.10	45.74	15.63
"FULL TREE	13.49	10.64	21.88
"k=5	13.49	10.64	21.88
"k=30	12.80	10.64	19.35

ALL PATIENTS LEAVE OUT VARIABLES ANY RECURRENCE

1st run	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	53.97	71.26	15.38
"FULL TREE	59.52	82.76	7.69
"k=5	59.52	82.76	7.69
"k=30	60.47	82.76	14.29

2nd RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	52.38	71.08	16.28
"FULL TREE	56.35	81.93	6.98
"k=5	56.35	81.93	6.98
"k=30	57.36	81.93	13.04

ALL PATIENTS LEAVE OUT VARIABLES RECURRENCE MORE THAN LOCAL

1ST RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	59.52	75.82	17.14
"FULL TREE	39.68	42.86	31.43
"k=5	39.68	42.86	31.43
"k=30	61.72	80.22	16.22

2nd RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	57.94	71.58	16.13
"FULL TREE	38.10	41.05	29.03
"k=5	38.10	41.05	29.03
"k=30	59.38	73.68	18.18

LIMITED PATIENTS ANY RECURRENCE

1st RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	44.44	46.73	31.58
"FULL TREE	15.87	7.48	63.16
"k=5	14.29	5.61	63.16
"k=30	8.40	3.74	50.00

2nd RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	32.54	34.26	22.22
"FULL TREE	20.63	10.19	83.33
"k=5	20.63	10.19	83.33
"k=30	9.32	4.63	60.00

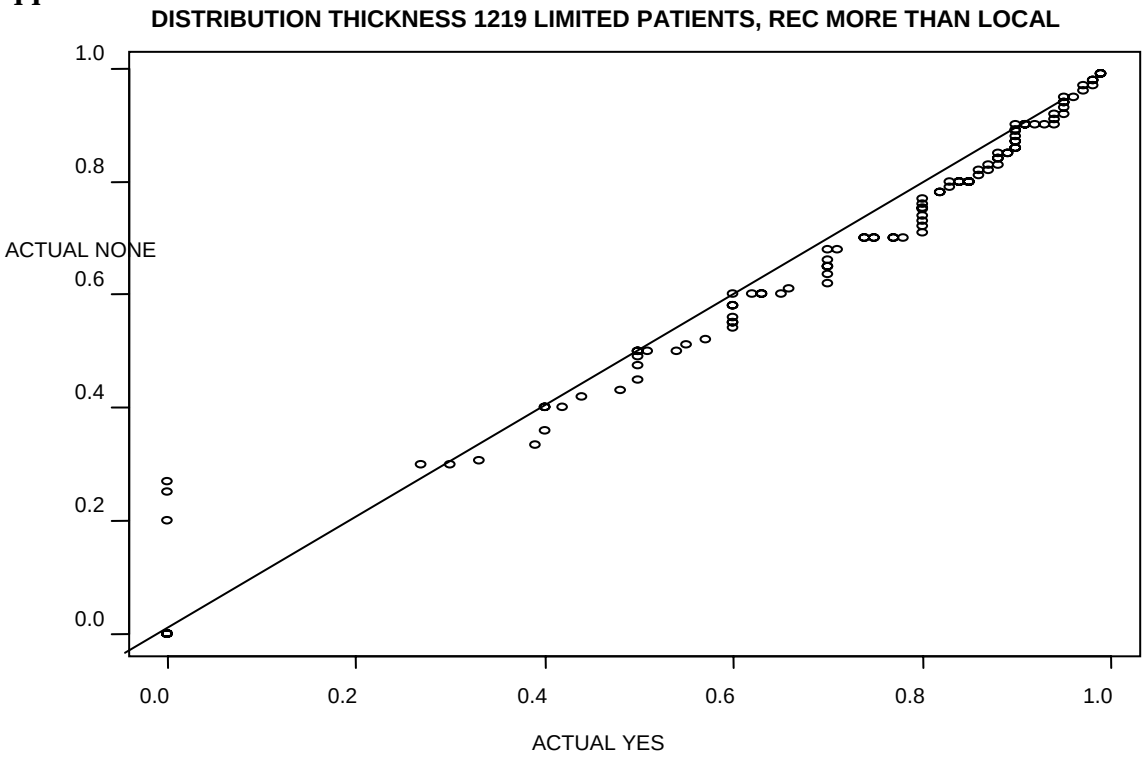
LIMITED PATIENTS RECURRENCE MORE THAN LOCAL

1st RUN	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
"RANDOM FOREST	69.84	74.77	33.33
"FULL TREE	15.87	7.21	80.00
"k=5	17.46	10.81	66.67
"k=30	5.00	0.00	66.67

2nd RUN"	TOTAL M.S.E.	NONE M.S.E.	YES M.S.E.
RANDOM FOREST	63.49	66.67	40.00
FULL TREE	17.46	9.01	80.00
k=5	18.25	11.71	66.67
k=30	5.79	0.90	60.00

“Table 25 cont”

qqPlot



ACTUAL YES

AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :15.30	1:60	1:57	1: 5	1: 9	Min. :0.0000	2 :89	0: 10	Min. : 51
1st Qu.:33.30	2:54	2:40	2:89	2:13	1st Qu.:0.6000	6 : 8	1:104	1st Qu.: 676
Media :45.60		4:17	3: 4	3:72	Median :0.8000	1 : 5		Median :1364
Mean :44.68			4: 4	4:18	Mean :0.6977	3 : 4		Mean :1876
3rd Qu.:54.40			5: 4	5: 0	3rd Qu.:0.9000	10: 4		3rd Qu.:2700
Max. :76.90			6: 8	6: 2	Max. :0.9900	4 : 2		Max. :8486
						(Other): 2		

ACTUAL NONE

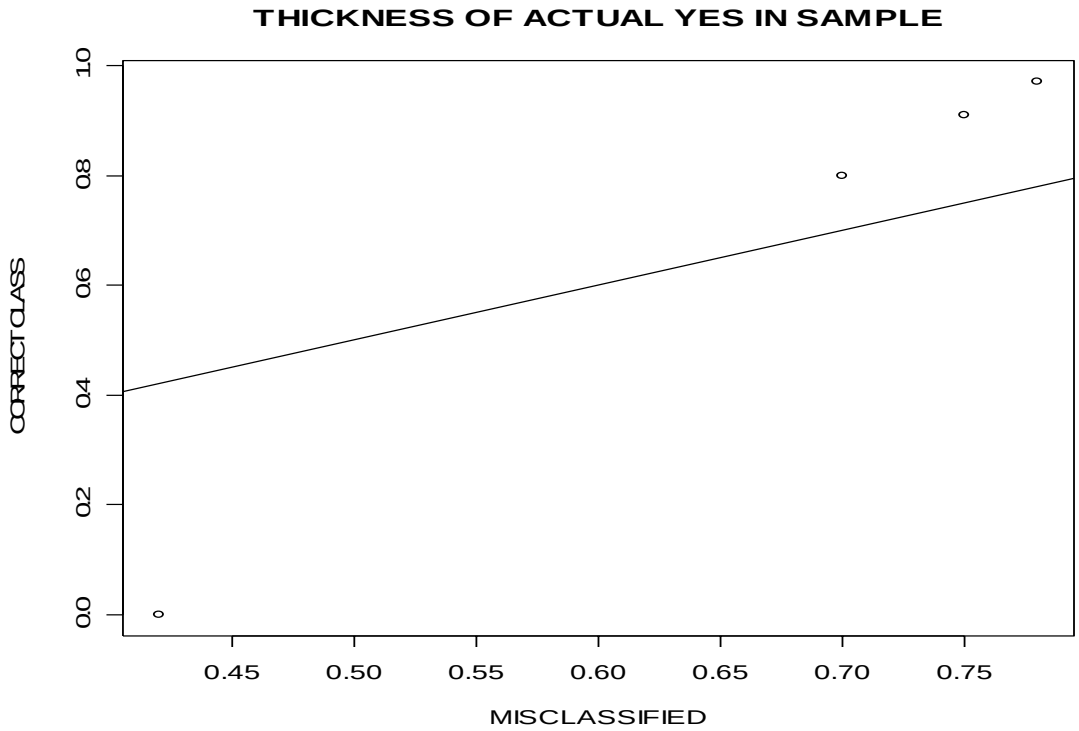
AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :11.20	1:503	1:478	1: 56	1: 54	Min. :0.0000	2 :929	0:276	Min. : 0
1st Qu.:35.00	2:602	2:462	2:929	2:173	1st Qu.:0.5400	6 : 63	1:829	1st Qu.: 1596
Media :44.80		4:165	3: 28	3:690	Median :0.7300	1 : 56		Median : 3738
Mean :46.16			4: 11	4:178	Mean :0.6758	3 : 28		Mean : 3704
3rd Qu.:57.40			5: 18	5: 5	3rd Qu.:0.8600	16: 12		3rd Qu.: 5658
Max. :89.20			6: 63	6: 5	Max. :0.9900	10: 11		Max. :10443
						(Other): 6		

Item 1. The qqPlot and Table of YES and NONE of All Limited Patients

RANDOM FOREST ERROR RATES 126 SAMPLE PATIENTS

TOTAL M.S.E.	ACTUALNONE M.S.E.	ACTUAL YES M.S.E
53.96825	57.65766	26.66667

qqPlot



RANDOM FOREST YES MISCLASSIFIED

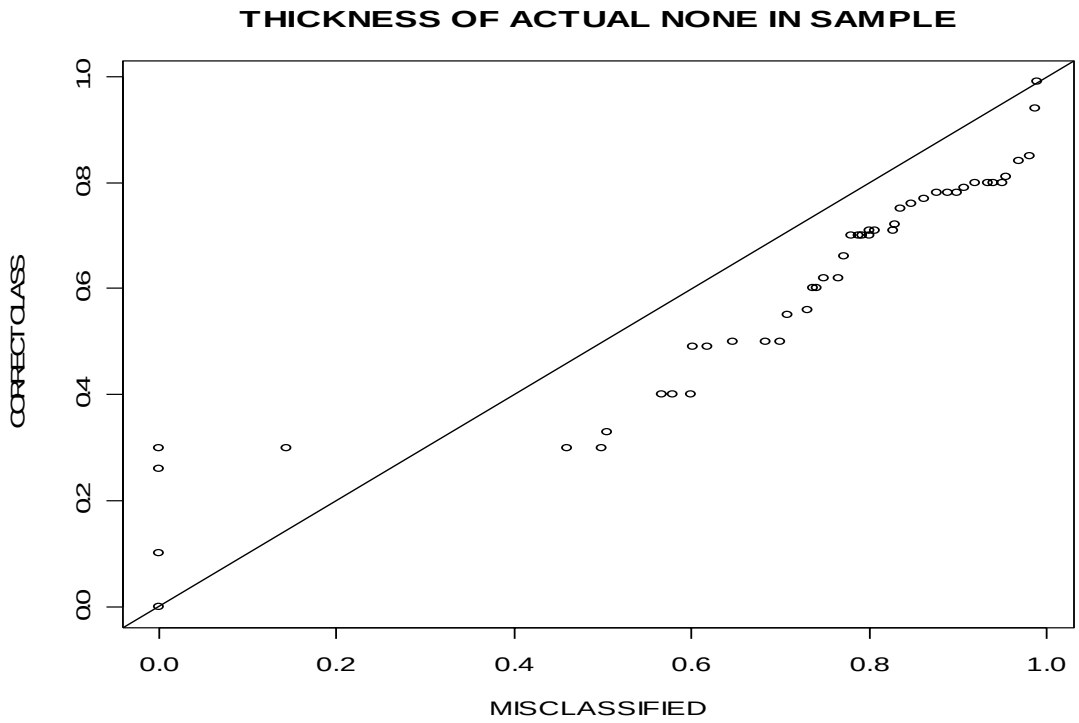
AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :35.80	1:1	1:2	1:0	1:0	Min. :0.4200	2:3	0:2	Min. : 331
1st Qu.:47.20	2:3	2:2	2:3	2:1	1st Qu.:0.6300	6:1	1:2	1st Qu.: 721
Media :56.85		4:0	3:0	3:3	Median :0.7250	1:0		Median : 872
Mean :56.60			4:0	4:0	Mean :0.6625	3:0		Mean :1364
3rd Qu.:66.25			5:0	5:0	3rd Qu.:0.7575	4:0		3rd Qu.:1515
max. :76.90			6:1	6:0	Max. :0.7800	10:0		Max. :3380
						(Other) :0		

RANDOM FOREST YES CORRECTLY CLASSIFIED

AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :22.90	1:7	1:7	1:0	1:2	Min. :0.0000	2:7	0: 0	Min. : 51.0
1st Qu.:34.80	2:4	2:2	2:7	2:0	1st Qu.:0.6400	6:2	1:11	1st Qu.: 814.5
Media :49.40		4:2	3:1	3:6	Median:0.8000	3:1		Median :1262.0
Mean :45.87			4:0	4:2	Mean :0.6855	4:1		Mean :1627.5
3rd Qu:54.55			5:1	5:0	3rd Qu.:0.9450	1:0		3rd Qu.:1695.5
max . :62.70			6:2	6:1	Max. :0.9700	10:0		Max. :6952.0

Item 2. Error Rates of Sample Group; qqPlot and Results of Yes Sample Patients

qqPlot



RANDOM FOREST NONE MISCLASSIFIED

AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :11.20	1:24	1:30	1: 1	1: 6	Min. :0.0000	2:52	0:13	Min. : 16
1st Qu.:32.17	2:40	2:27	2:52	2: 7	1st Qu.:0.6075	6: 8	1:51	1st Qu.:1538
Media :40.45		4: 7	3: 0	3:41	Median :0.7800	10: 3		Median :3244
Mean :43.52			4: 3	4: 9	Mean :0.7023	1: 1		Mean :3299
3rd Qu:58.52			5: 0	5: 0	3rd Qu.:0.8825	3: 0		3rd Qu.:4821
Max. :68.80			6: 8	6: 1	Max. :0.9900	4: 0		Max. :7163
						(Other): 0		

RANDOM FOREST NONE CORRECTLY CLASSIFIED

AGE	sex	sitegrp	histgrp	clark	THICK	hist	anyimm	DAYTOREC
Min. :30.50	1:30	1:17	1: 9	1: 1	Min. :0.0000	2:36	0:17	Min. : 87
1st Qu.:38.10	2:17	2:17	2:36	2:14	1st Qu.:0.4900	1: 9	1:30	1st Qu.:1614
Media:51.20		4:13	3: 0	3:29	Median :0.7000	6: 1		Median :3121
Mean :51.43			4: 0	4: 3	Mean :0.6057	12: 1		Mean :3269
3rd Qu:62.90			5: 1	5: 0	3rd Qu.:0.7800	3: 0		3rd Qu.:4579
Max. :87.50			6: 1	6: 0	Max. :0.9900	: 0		Max. :8988
						(Other): 0		

Item 3.The qqPlot and Results of NONE Sample Patients

Item 4. Portion of Random Forest Program to Create Table for Each Study

```
detach()
me<-read.table("a:\\thin2.txt",header=T)
attach(me)
library(lattice);library(tree);library(randomForest);library(RColorBrewer)
mel<-me # CAN LEAVE OUT ADVANCED STAGE AT THIS POINT
detach(me)
attach(mel)
dd<-length(mel$AGE)
nn<-300   #size trees in random forest

#change to categoricals
ptnum<-as.factor(PTNum)
sex<-as.factor(SEX)
race<-as.factor(RACE)
side<-as.factor(SIDE)
sitegrp<-as.factor(SITEGRP)
satel<-as.factor(SATEL)
histgrp<-as.factor(HISTGRP)
clark<-as.ordered(CLARK)
ulcer<-as.factor(ULCER)
stggrp<-as.factor(STGGRP)
recstat<-as.factor(RECSTAT)
Typerec<-TYPEREC
sitedrec<-as.factor(SITEDREC)
live<-as.factor(LIVE)
typcas<-as.factor(TYPCAS)
dextent<-as.factor(DEXTENT)
prisite<-as.factor(PRISITE)
hist<-as.factor(HIST)
anyimm<-as.factor(ANYIMM)
Typerec[TYPEREC==0]<-"NONE" # SET DEFINITION OF RECURRENCE
Typerec[TYPEREC>0]<-"YES"
typerec<-as.factor(Typerec)
daytorec<-as.ordered(NEWREC)
#ADDS FACTOR DIFFERENCE SURVIVAL MINUS DAYTORECREC
diff<-mel$DAYSURV-mel$DAYTOREC
#NEW DATA FRAME
new.mel<-data.frame(ptnum,AGE,sex,race,side,sitegrp,satel,histgrp,clark,
THICK,ulcer,stggrp,DAYTOREC,NEWREC,daytorec,recstat,typerec, sitedrec, live,
typcas,dextent, prisite,hist,anyimm,DAYSURV,diff,TYPEREC)
# CREATE LARGE TREE WITH DATA FRAME (15 VARIABLES)
new.mel.ltr<-tree(typerec ~ AGE+ sex+ race +side  +satel +histgrp+ clark +THICK
+ulcer+ stggrp+dextent+typcas+prisite+ hist+anyimm ,new.mel,
control=tree.control(dd,mincut=1,minsize=2,mindev=0.0001))
```

```
summary(new.mel.ltr)
#SET RANDOM FOREST PARAMETERS OF MTRY AND CUTOFFS
zz<-15
aa<-.51
bb<-.49
# EXAMPLE PART OF RANDOM FOREST
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)
rf1300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

“Item 4. cont”

```
rf32300.1549<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

aa<-.7
bb<-.3
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)
rf1300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

“Item 4. cont”

```
rf32300.157<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

aa<-.9
bb<-.1
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)
rf1300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

“Item 4. cont”

```
rf32300.159<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

aa<-.95
bb<-.05
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)

rf1300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

"Item 4. cont"

```
rf32300.1595<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

aa<-.97
bb<-.03
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)

rf1300.1597<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.1597<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.1597<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300v<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark +THICK
+ sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.1597<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

"Item 4. cont"

```
rf32300.1597<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

aa<-.99
bb<-.01
print("The Yes Cutoff Is")
print (bb)
print ("the number of trees is")
print(nn)

rf1300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=1,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf2300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=2,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf4300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=4,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf8300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=8,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

rf16300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=16,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)
```

"Item 4. cont"

```
rf32300.1599<-randomForest(typerec~ AGE+ satel +histgrp +dextent+typcas+ clark
+THICK + sex+ race +side+ulcer+ prisite+ hist+ anyimm +stggrp,
new.mel
,ntree=nn,mtry=zz,replace=TRUE,nodesize=32,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=F)

# CAN REPEAT FOR DIFFERENT MTRY BY RESETTING zz
# example rf code  rf32300.1599###### 32
#32 =T.N.
#300. = # TREES
#15  MTRY
#99  NONE CUTOFF .99 YES CUTOFF .01
###PRINT OUT##########
print("MTRY=");print(zz)
print("yes cutoff =.49")
rf1300.1549   # use rf code to identify the parameter of random forest
rf2300.1549
rf4300.1549
rf8300.1549
rf16300.1549
rf32300.1549

print("MTRY=");print(zz)
print("yes cutoff =.70")
rf1300.157
rf2300.157
rf4300.157
rf8300.157
rf16300.157
rf32300.157

print("MTRY=");print(zz)
print("yes cutoff =.90")
rf1300.159
rf2300.159
rf4300.159
rf8300.159
rf16300.159
rf32300.159

print("MTRY=");print(zz)
print("yes cutoff =.95")
rf1300.1595
rf2300.1595
rf4300.1595
```

"Item 4. cont"

```
rf8300.1595
rf16300.1595
rf32300.1595

print("MTRY=");print(zz)
print("yes cutoff =.97")
rf1300.1597
rf2300.1597
rf4300.1597
rf8300.1597
rf16300.1597
rf32300.1597

print("MTRY=");print(zz)
print("yes cutoff =.99")
rf1300.1599
rf2300.1599
rf4300.1599
rf8300.1599
rf16300.1599
rf32300.1599
```

“Item 4. cont”

Item 5. Programs to Create Sets of Single Trees and Random Forests for Direct Comparison on the Same Random Sample of 126 Patients. Includes Collection and Summaries from Misclassified Patients.

```
detach()
 me<-read.table("e:\\thin2.txt",header=T)
 attach(me)
 library(lattice);library(tree);library(randomForest)
mel<-me
detach(me)
attach(mel)
dd<-length(mel$AGE)

#change to categoricals
ptnum<-as.factor(PTNum)
sex<-as.factor(SEX)
race<-as.factor(RACE)
side<-as.factor(SIDE)
sitegrp<-as.factor(SITEGRP)
satel<-as.factor(SATEL)
histgrp<-as.factor(HISTGRP)
clark<-as.ordered(CLARK)
ulcer<-as.factor(ULCER)
stggrp<-as.factor(STGGRP)
recstat<-as.factor(RECSTAT)
Typerec<-TYPEREC
sitedrec<-as.factor(SITEDREC)
live<-as.factor(LIVE)
typcas<-as.factor(TYPCAS)
dextent<-as.factor(DEXTENT)
prisite<-as.factor(PRISITE)
hist<-as.factor(HIST)
anyimm<-as.factor(ANYIMM)
Typerec[(TYPEREC<1)]<-"NONE"
Typerec[TYPEREC>0]<-"YES"
typerec<-as.factor(Typerec)
daytorec<-DAYTOREC
diff<-mel$DAYSURV-mel$DAYTOREC

#set random forest parameters
cc<-3
nn<-300
aa<-.92
bb<-.08
zz<-7
```

```
#set new data frame

new.mel<-
data.frame(ptnum,AGE,sex,race,side,sitegrp,satel,histgrp,clark,THICK,typcas,dextent,ulc
er,stggrp,DAYTOREC,daytorec,recstat,
typerec,sitedrec,live,prisite,hist,anyimm,DAYSURV,diff,TYPEREC)

#Create Full Tree
new.mel.ltr<-tree(typerec ~ AGE+typcas+ sex+ race +side +satel +histgrp+ clark
+THICK +ulcer+ prisite+ hist+anyimm +stggrp+dextent,new.mel,
control=tree.control(dd,mincut=1,minsize=2,mindev=0.0001))
summary(new.mel.ltr)

##select random sample for test and train set
##RENAME NEXT FINAL2
ss<-sample(1:dd,21,replace=F)
testset<-new.mel[ss,]
trainset<-new.mel[-ss,]
gg<-dd-length(ss)
#CREATE TRAINING TREE
trainset.newmel.ltr<-tree(typerec ~ AGE+typcas+ sex+ race +side +satel +histgrp+ clark
+THICK +ulcer+ prisite+ hist+anyimm+stggrp+dextent,
trainset,control=tree.control(dd,mincut=1,minsize=cc,mindev=0.001))

##prune.tree DIFFERENT SIZES ROUND RESULTS TO TWO DECIMALS
prtree30<-(prune.tree(trainset.newmel.ltr,k=30.0))
p.t30<-predict.tree(prtree30,testset)
p.trnd30<-round(p.t30,1)
newp.trnd30<-p.trnd30[,2]

## IN THIS EXZMPLE SET YES CUTOFF AT .35
newp.trnd30[p.trnd30[,2]>=.35]<-"YES"
newp.trnd30[p.trnd30[,2]<.35]<-"NONE"

prtree5<-(prune.tree(trainset.newmel.ltr,5.0))
p.t5<-predict.tree(prtree5,testset)
p.trnd5<-round(p.t5,1)
newp.trnd5<-p.trnd5[,2]
newp.trnd5[p.trnd5[,2]>=.35]<-"YES"
newp.trnd5[p.trnd5[,2]<.35]<-"NONE"
```

"Item 5. cont"

```
#CREATE RANDOM FOREST WITH TRAINSET
trsetrf<-randomForest(typerec~ AGE+ satel +histgrp +typcas+ clark +THICK + sex+
race +side+ulcer+ prisite+ hist+ anyimm+stggrp+dextent,
trainset
,ntree=nn,mtry=zz,replace=TRUE,nodesize=cc,cutoff=c(aa,bb),importance=TRUE,DO.T
RACE=5,keep.forest=T)

#PREDICT TEST SAMPLE
presrf<-predict(trsetrf,testset)
final1<-
data.frame(testset$ptnum,testset$typerec,presrf,newp.trnd30,newp.trnd5,newptree)
####THEN REPEAT ABOVE FIVE MORE TIMES TO COLLECT 126
PATIENTS####

#COMBINE SIX SAMPLE RESULTS
finalcompare<-data.frame(rbind(final1,final2,final3,final4,final5,final6))
attach(finalcompare)

#####    firstactual   second predicted
 yesfinalcompare<-finalcompare[finalcompare$testset.typerec=="YES",]
  yesyespresrf<-yesfinalcompare[yesfinalcompare$presrf=="YES",]
  yesyesnewp.trnd30<-yesfinalcompare[yesfinalcompare$newp.trnd30=="YES",]
  yesyesnewp.trnd5<-yesfinalcompare[yesfinalcompare$newp.trnd5=="YES",]
  yesyesnewptree<-yesfinalcompare[yesfinalcompare$newptree=="YES",]
  yesnopresrf<-yesfinalcompare[yesfinalcompare$presrf=="NONE",]
  yesnonewp.trnd30<-yesfinalcompare[yesfinalcompare$newp.trnd30=="NONE",]
  yesnonewp.trnd5<-yesfinalcompare[yesfinalcompare$newp.trnd5=="NONE",]
  yesnonewptree<-yesfinalcompare[yesfinalcompare$newptree=="NONE",]
  nofinalcompare<-finalcompare[finalcompare$testset.typerec=="NONE",]
  noyespresrf<-nofinalcompare[nofinalcompare$presrf=="YES",]
  noyesnewp.trnd30<-nofinalcompare[nofinalcompare$newp.trnd30=="YES",]
  noyesnewp.trnd5<-nofinalcompare[nofinalcompare$newp.trnd5=="YES",]
  noyesnewptree<-nofinalcompare[nofinalcompare$newptree=="YES",]
  nonopresrf<-nofinalcompare[nofinalcompare$presrf=="NONE",]
  nononewp.trnd30<-nofinalcompare[nofinalcompare$newp.trnd30=="NONE",]
  nononewp.trnd5<-nofinalcompare[nofinalcompare$newp.trnd5=="NONE",]
  nononewptree<-nofinalcompare[nofinalcompare$newptree=="NONE",]

#FIND LENGTHT OF EACH CLASS
#YES
lyy1<-length(yesyespresrf[,1])
 lyy2<-length(yesyesnewp.trnd30[,1])
 lyy3<-length(yesyesnewp.trnd5[,1])
```

```
yy4<-length(yesyesnewptree[,1])
 lyn1<-length(yesnopresrf[,1])
 lyn2<-length(yesnonewp.trnd30)
 lyn3<-length(yesnonewp.trnd5[,1])
 lyn4<-length(yesnonewptree[,1])

#no
 lny1<-length(noyespresrf[,1])
 lny2<-length(noyesnewp.trnd30[,1])
 lny3<-length(noyesnewp.trnd5[,1])
 lny4<-length(noyesnewptree[,1])
 lnn1<-length(nonopresrf[,1])
 lnn2<-length(nononewp.trnd30[,1])
 lnn3<-length(nononewp.trnd5[,1])
 lnn4<-length(nononewptree[,1])

#CALCULATE M.S.E. FOR EACH SAMPLE EACH CLASS EACH SIZE PRUNED
TREE
 mse.rftot<-100*(lny1+lyn1)/(lyy1+lyn1+lny1+lnn1)
 mse.rfny <-100*lny1/(lny1+lnn1)##actual no
 mse.rfyn <-100*lyn1/(lyn1+lyy1)##actual yes
 mse.p30tot<-100*(lny2+lyn2)/(lyy2+lyn2+lny2+lnn2)
 mse.p30ny <-100*lny2/(lny2+lnn2)##actual no
 mse.p30yn <-100*lyn2/(lyn2+lyy2)##actual yes
 mse.p5tot<-100*(lny3+lyn3)/(lyy3+lyn3+lny3+lnn3)
 mse.p5ny <-100*lny3/(lny3+lnn3)##actual no
 mse.p5yn <-100*lyn3/(lyn3+lyy3)##actual yes
 mse.ptreetot<-100*(lny4+lyn4)/(lyy4+lyn4+lny4+lnn4)
 mse.ptreeny <-100*lny4/(lny4+lnn4)##actual no
 mse.ptreeyn <-100*lyn4/(lyn4+lyy4)##actual yes
#PRINT OUT OF COMPARISON RANDOM FOREST AND TREES FOR SAME
SAMPLES

 print("RANDOM FOREST    TOTAL M.S.E.  ACTUALNONE M.S.E.   ACTUAL YES
M.S.E.");print( mse.rftot);print (mse.rfny); print( mse.rfyn)
 print("FULL TREE    TOTAL M.S.E.  ACTUALNONE M.S.E.   ACTUAL YES
M.S.E.");print(  mse.ptreetot);print (mse.ptreeny); print( mse.ptreeyn)
 print("k=5    TOTAL M.S.E.  ACTUALNONE M.S.E.   ACTUAL YES M.S.E.");print(
mse.p5tot);print (mse.p5ny); print( mse.p5yn)
 print("k=30    TOTAL M.S.E.  ACTUALNONE M.S.E.   ACTUAL YES M.S.E.");print(
mse.p30tot);print (mse.p30ny); print( mse.p30yn)
```

“Item 5. cont”

```
# COLLECT ALL MISCLASSIFIED FROM RANDOMFOREST AND TREES WITH
SEVERAL INPUT VARIABLES
rfmisclassyes<-new.mel[yesnopresrf$testset.ptnum,c(2:12,13,17,18,19,22,24)]
rfcorrectclassyes<-new.mel[yesyespresrf$testset.ptnum,c(2:12,13,17,18,19,22,24)]
rfmisclassno<-new.mel[noyespresrf$testset.ptnum,c(2:12,13,17,18,19,22,24)]
rfcorrectclassno<-new.mel[nonopresrf$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k30treemisclassyes<-
new.mel[yesnonewp.trnd30$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k30treecorrectclassyes<-
new.mel[yesyesnewp.trnd30$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k30treemisclassno<-new.mel[nononewp.trnd30$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k30treecorrectclassno<-
new.mel[noyesnewp.trnd30$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k5treemisclassyes<-new.mel[yesnonewp.trnd5$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k5treecorrectclassyes<-
new.mel[yesyesnewp.trnd5$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k5treemisclassno<-new.mel[nononewp.trnd5$testset.ptnum,c(2:12,13,17,18,19,22,24)]
k5treecorrectclassno<-
new.mel[noyesnewp.trnd5$testset.ptnum,c(2:12,13,17,18,19,22,24)]
fulltreemisclassyes<-new.mel[yesnonewptree$testset.ptnum,c(2:12,13,17,18,19,22,24)]
fulltreecorrectclassyes<-
new.mel[yesyesnewptree$testset.ptnum,c(2:12,13,17,18,19,22,24)]
fulltreemisclassno<-new.mel[nononewptree$testset.ptnum,c(2:12,13,17,18,19,22,24)]
fulltreecorrectclassno<-
new.mel[noyesnewptree$testset.ptnum,c(2:12,13,17,18,19,22,24)]

#PRINT SUMMARY OF MISCLASSED DATA POINTS
summary(rfmisclassyes)
summary(rfcorrectclassyes)
summary(rfmisclassno)
summary(rfcorrectclassno)
summary(k30treemisclassyes)
summary(k30treecorrectclassyes)
summary(k30treemisclassno)
summary(k30treecorrectclassno)
summary(k5treemisclassyes)
summary(k5treecorrectclassyes)
summary(k5treemisclassno)
summary(k5treecorrectclassno)
summary(fulltreemisclassyes)
summary(fulltreecorrectclassyes)
summary(fulltreemisclassno)
summary(fulltreecorrectclassno)
```

"Item 5. cont"

Item 6. D.U.M.C. Protocol for Thin Melanoma

D.U.M.C. PROTOCOL THIN MELANOMA

Anyimm Any immunotherapy ever for this melanoma.
0=no, 1=yes. MEMORANDUM

To: Richard Reiter

From: Wilma Stanley

Date: May 23, 2003

Re: dataset of thin cutanous melanoma cases - second try

The file includes the following cases:

American College of Surgeons reportable cases first seen at DUMC for melanoma in 1970-1998:
Thin cutaneous melanomas with known primary seen in the Melanoma Clinic.
Cases with multiple melanoma primaries are excluded.

Thin: Breslow thickness is known and is < 1.00 mm OR
Clarks level is 1 (insitu) and Breslow thickness is unknown.

There are 1610 cases in the dataset.

The first line contains the names of the columns.
The values are separated by spaces.

The data items in the file are:
PtNum - Text formatted number from 0001 to 1563.
The value is surrounded by double quotes (").

Age - Age at clinical diagnosis in years.
Format: xx.x
Any case for which calculated age was 90 or above
has a value of 90.0.

SEX - Sex. 1=M, 2=F.
RACE - Race.
1='Caucasian', 2='Black', 3='Other';

SIDE - Primary Site: Laterality.
0='Unknown or N\A', 1='Right', 2='Left'.

SITEGRP - Primary Site group.
Collapsed choices of PRISITE.

“Item 3. cont”

1='Trunk', 2='Ext', 4='HN'.

SATEL - Satellite lesions (present at initial diagnosis).
0=No, 1=Yes, 9=no information.

HISTGRP - Histologic Group.
Collapsed choices of full Hist item.
1='LM', 2='SS', 3='Nod', 4='Acral', 5='Oth', 6='Unc';

CLARK - Clarks level of primary.
1='1', 2='2', 3='3', 4='4', 5='5', 6='Unk'.

THICK - Thickness of invasion(mm). ##.##
If unknown for CLARK=1 (in situ) cases, value is 0.

ULCER - Ulcerated lesion?
1='Present', 2='Absent', 3='Unknown';

STGGRP - Stage group at init.dx.

0='Primary' No disease initially except for primary (no satellite lesions, no local skin mets),
1='Loc/SatLes' Local skin mets or satellite lesions initially, but no initial intransit nodes, initial RLN or initial distant mets.
2='Intransit' Intransit nodes initially, with or without local skin mets and/or satellite lesions, but no RLN or distant mets.
4='Nodal' RLN initially, with or without intransit nodes, local skin mets and/or satellite lesions, but no distant mets.
8='Distant' Distant mets (includes distant nodes if identified. See notes below.)

“Item 6. cont”

DISTANT NODES:

In the melanoma database, nodal mets are not identified as regional vs distant. However, the sites of positive LN events may be recorded. Exact matches of dates of nodal mets and dates of LN positive events are examined. Comparing the site of the positive LN to the primary site, a designation of distant or regional is made for purposes of calculating recurrences.

SITES OF LN Events:

0='Unk',
1='ANk', 3='PNk', 5='Scv',
7='Axi', 9='Epi',
11='Ing', 13='Ili',
14='Med',15='PNo', 16='Pop',18='InN', 19='InA', 20='Mul',
21='Par', 23='ATr', 25='PTr',27='UEx', 29='LEx', 31='NkN';

Below are the full words associated with the abbreviations above:
(*** indicates that side is not applicable for this site.
xxx indicates that the site represents a distant nodal met
that is outside a nodal basin.

0. UNKNOWN ***
1. ANT NECK
3. POST NECK
5. SCV NODES
7. AXILLA
9. EPITROCHLEAR
11. INGUINAL (obturator nodes also)
13. ILIAC TR says distant; treated as regional for trunk, lower extremity & unknown primary.
14. MEDIASTINAL *** Distant
15. PARAORTIC NODES *** Distant
16. POPLITEAL SPACE
18. INTRANSIT NODES ***
19. INTRA-ABDOMINAL *** Distant
20. MULTIPLE *** Treated as Distant
21. PAROTID
23. ANT TRUNK (CHEST) xxx
25. POST TRUNK xxx
27. UPPER EXTREMITY xxx
29. LOWER EXTREMITY xxx
31. NECK NOS

"Item 6. cont"

The following LN sites are considered distant for ALL primary sites, including unknown primaries:

14. MEDIASTINAL *** TR says always distant
15. PARAORTIC NODES *** TR says always distant
19. INTRA-ABDOMINAL *** TR says always distant
20. MULTIPLE *** treat as distant

All other LN sites are considered regional for unknown primaries.

In addition, the following combinations of primary site and node site are identified as distant for this analysis (same as for Becke White's analysis):

Prisite: 2, 4, 6, 12, 13, 14 (upper extremity, head parts):
LN + Sites: 11, 13, 16, 29 (inguinal, iliac, popliteal, lower extremity)

Prisite: 4, 6 (finger, palm):
LN + Sites: 1, 3, 5, 21, 23, 25, 31 (neck parts, ant/post trunk)

Prino: Elbow or lower arm:
(>= 302 and <= 305) or (>= 308 and <= 353):

LN + Sites: 1, 3, 5, 21, 31 (neck parts)
LN + Sites: 23, 25 (ant/post trunk) not of same side as primary

Prisite: 12, 13 (ear, face/nose)
LN + Sites: 9, 23, 25, 27 (epitrochlear, upper extrem, ant/post trunk)

Prisite: 3, 5, 7 (lower extremity):
LN + Sites: 1, 3, 5, 7, 9, 21, 27, 31 (neck, axillary, epitrochlear, upp extrem)

Prisite: 5, 7 (toe, sole/heel):
LN + Sites: 23, 25 (ant/post trunk)

Prisite: 1 (trunk):
LN + Sites: 9, 16 (epitrochlear, popliteal)

Prino: 226, 227, 228, 229, 230, 231 (low/mid back, buttock):
LN + Site: 1 (anterior neck)

"Item 6. cont"

Prino: 200, 218, 219, 220, 221, 222, 223 (umbilicus, abdomen, groin/hip):
LN + Site: 3 (posterior neck)

Other sites of positive LN event may be distant relative to the primary site. The above comparisons are the extent of the comparisons performed by the code that produced this dataset.

23. ANT TRUNK (CHEST) xxx
25. POST TRUNK xxx
27. UPPER EXTREMITY xxx
29. LOWER EXTREMITY xxx

23, 25, 27 and 29 are supposed to be distant nodes outside of a nodal basin. In that case, they should probably be termed "distant skin". However, they have also been used for unknown primaries, as intransit node is an inappropriate term for unknown primaries.

FIRST RECURRENCE: The next items identify the first recurrence.

All dates of mets are matched with initial mets sites.

daIlast = lowest date in date mets section such that all initial met types are in the date mets section with a date on or before daILast.

Error if:
a) daILast > 4 months after date of clinical diagnosis
b) there is a type of initial met specified for which no corresponding date of initial mets is recorded that is within 4 months of clinical diagnosis
c) there is a type of met other than the types indicated as initial mets with date <= daiLast

NO case in this data set had any of the above 3 errors.

To define a recurrence:
Look for first met not yet assigned a recurrence. DaRecStart.
All mets with date >= DaRecStart and date <= DaRecStart+14 days are part of the recurrence that began with DaRecStart.

Sites of mets from DaRecStart to DaRecStart+14 are examined. Type of recurrence is the worst type found (ie., distant is worse than nodal/regional, nodal/regional is worse than local).

Abbr.	Full	Type
0. Un	UNKNOWN	treat as distant
1. Node	NODES	Nodal/Reg if no LN+ Distant match
2. L.sk	LOCAL SKIN	local
3. D.sk	DISTANT SKIN	distant
4. Lung	LUNG	distant
5. Livr	LIVER	distant
6. Bone	BONE	distant
7. CNS	CNS	distant
8. Eye	EYE	distant
9. GI	GI	distant
10. Oth	OTHER	distant
11. Inod	INTRANSIT NODE	Nodal/Regional
12. AdrG	ADRENAL GLAND	distant
15. Dead	DEAD DUE TO METS NOS	distant
25. Distant nodes		distant, based on LN+ site match versus primary site.

DayToRec - number of days from date of clinical diagnosis to date of first recurrence for cases that had a recurrence. For cases that had no recurrence, the number of days from date of clinical diagnosis to date of last fu/death.

TypeRec - Type of first recurrence

0='_' (none)
1='L' Local mets
2='I', Intransit nodes +/- local mets
4='N' Regional nodes +/-intransit nodes +/-local mets
8='D' Distant mets +/- regional nodes +/- intransit nodes +/- local mets

RECSTAT - Recurrence status.
1 = no recurrence.
0 = recurrence.
TypeRec should be > 0.

SiteDrec - If TypeRec=8 (distant recurrence), site of distant met. If the recurrence contained more than one distant site, SiteDrec = multiple (27).

Abbr.	Full
0. Un	UNKNOWN
3. D.sk	DISTANT SKIN

"Item 6. cont"

4. Lung LUNG
5. Livr LIVER
6. Bone BONE
7. CNS CNS
8. Eye EYE
9. GI GI
10. Oth OTHER
12. AdrG ADRENAL GLAND
15. Dead DEAD DUE TO METS NOS
25. Distant nodes
27. Multiple Multiple distant sites
30. Not distant Not a distant recurrence
31. No Recurrence

OTHER VARIABLES:

LIVE - Vital status. 1=D or 2=A
DaySurv - number of days from date of clinical diagnosis to date of last fu/death.

TYPCAS - Type of case
1=Analytic
DUMC diagnosed or was involved in the first course of treatment for the primary.

2=Non-analytic
First seen at DUMC for a treatment course other than the first treatment course for the primary.
Typically, seen for a recurrence, although may have been seen for persistence, progression, or "peace of mind".

DEXTENT - For non-analytic cases (TYPCAS=2):
SEER Summary Stage (extent of disease) of staging period during which first seen at DUMC for the primary.

The SEER Summary stage is cumulative. Therefore, it does not indicate the disease present when first seen at DUMC, but a summary of all disease experienced by the patient as of that time.

In the SEER Summary stage, satellite lesions and intransit nodes are BOTH considered Direct Extension.

"Item 6. cont"

If analytic (TYPCAS=1) value is blank.

1 = 'InSitu',
2 = 'Local',
3 = 'Dir.Extension',
4 = 'RLN',
5 = 'DirExt+RLN',
6 = 'Distant',
11 = 'Unknown';

The remaining items were used in the creation of other items.
They are included as a check on previous items, should there be a question.

PRISITE - Primary site.

1 = 'Trun' TRUNK
2 = 'UpEx' UPPER EXTREMITY
3 = 'LoEx' LOWER EXTREMITY
4 = 'SubF' SUBUNGUAL - FINGER
5 = 'SubT' SUBUNGUAL - TOE
6 = 'Palm' PALM
7 = 'SoHe' SOLE / HEEL
8 = 'MucR' MUCOCUT. RECTAL
9 = 'GenP' GENITAL/PERINEUM
10 = 'MucO' MUCOCUT. ORAL/NASAL
11 = 'Eye' EYE
12 = 'Ear' EAR
13 = 'FaNo' FACE / NOSE
14 = 'ScNe' SCALP / NECK
15 = 'Unk' UNKNOWN
16 = 'Oth' OTHER

HIST - Histologic type(original, not collapsed).

1 = 'L.M' Lentigo Maligna(Hutch)
2 = 'S.S' Superficial Spreading
3 = 'Nod' Nodular
4 = 'Pag' Pagetoid
6 = 'Unc' Unclassified (NOS)
7 = 'Epi' Epithelioid
8 = 'S.A' Spindle Cell Type A
9 = 'S.B' Spindle Cell Type B
10 = 'A.L' Acral Lentigenous
11 = 'MAB' Mixed A & B Cell
12 = 'Des' Desmoplastic
14 = 'Spi' Spindle Cell, NOS

“Item 6. cont”

15 = 'Und' Undifferentiated
16 = 'Jun' Junctional
17 = 'Pol' Polypoid
20 = 'Juv' JUVENILE,SPITZ NEVUS
21 = 'Dys' DYSPLASTIC NEVUS

ANYIMM PATIENT RECEIVED IMMUNOTHERAPY AT SOME TIME DURING FOLLOWUP

0 NONE 1 YES

“Item 6. cont”

Item 7. 10 Patients from Data Base

PTNum	AGE	SEX	RACE	SIDE	SITEGRP	SATEL	HISTGRP	CLARK	THICK
"0001"	73.7	1	1	1	1	0	2	3	0.85
"0002"	73.4	1	1	1	1	0	2	3	0.80
"0003"	62.7	1	1	2	1	0	2	3	0.94
"0004"	50.6	2	1	2	2	0	2	3	0.52
"0005"	76.4	2	1	1	2	0	2	2	0.51
"0006"	73.2	2	1	1	1	0	2	3	0.51
"0007"	50.3	1	1	1	1	0	2	3	0.95
"0008"	62.1	2	1	2	1	0	2	2	0.33
"0009"	70.4	1	1	1	1	0	2	4	0.60
"0010"	59.0	2	1	1	2	0	2	3	0.80

ULCER	STGGRP	DAYTOREC	RECSTAT	TYPEREC	SITEDREC	LIVE	DAYSURV
2	0	1531	1	0	31	1	1531
2	0	3863	1	0	31	1	3863
2	0	994	0	4	30	1	1393
2	0	6289	1	0	31	2	6289
2	0	5206	1	0	31	2	5206
2	0	5181	1	0	31	2	5181
2	0	3281	0	8	27	1	3589
2	8	809	1	0	31	1	809
2	0	1972	1	0	31	2	1972
2	0	6418	1	0	31	2	6418

TYPCAS	DEXTENT	PRISITE	HIST	ANYIMM
1	0	1	2	0
1	0	1	2	1
1	0	1	2	1
1	0	3	2	1
1	0	3	2	0
1	0	1	2	1
1	0	1	2	1
1	0	1	2	0
1	0	1	2	0
1	0	2	2	1