**SI Table 1: Individual information on patients**

Samples are listed in the same order as they appear in Figure 2 (top to bottom)

| **Case** | **Gender** | **AaE [yrs]** | **AaO [yrs]** | **Latency [yrs]** | **TNM status** | **RET-PTC 1/3** | **BRAF V600E** | **Dose [mGy]** | **7q11 gain** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | F | < 5 | 10 to < 20 | ≤ 17 | T1aN0M0 | 0 | 0 | 101 to 300 | 1 |
| 2 | F | < 5 | 10 to < 20 | ≤ 17 | T1bN0M0 | 0 | 0 | > 1000 | 0 |
| 3 | M | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | RET/PTC1 | 0 | > 1000 | 0 |
| 4 | F | 10 to < 20 | > 20 | ≤ 17 | T1bN0M0 | RET/PTC1 | 0 | 0 to 50 | 1 |
| 5 | M | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | 0 | 0 | 301 to 1000 | 0 |
| 6 | F | 5 to < 10 | > 20 | > 17 | T2N0M0 | NA | 0 | 301 to 1000 | 1 |
| 7 | F | 10 to < 20 | > 20 | ≤ 17 | T2mN0M0 | 0 | 0 | 101 to 300 | 0 |
| 8 | M | 10 to < 20 | > 20 | ≤ 17 | T3mN1aM0 | RET/PTC3 | 0 | > 1000 | 0 |
| 9 | F | < 5 | > 20 | > 17 | T3N0M0 | 0 | 0 | 301 to 1000 | 0 |
| 10 | F | 10 to < 20 | > 20 | > 17 | T1bN0M0 | 0 | NA | 301 to 1000 | 0 |
| 11 | F | 10 to < 20 | > 20 | ≤ 17 | T1bN1abM0 | NA | 0 | 301 to 1000 | 1 |
| 12 | M | < 5 | 10 to < 20 | > 17 | T1bN0M0 | RET/PTC1 | 0 | 301 to 1000 | 0 |
| 13 | F | 5 to < 10 | > 20 | > 17 | T3mN0M0 | 0 | 0 | > 1000 | 1 |
| 14 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | NA | NA | 0 to 50 | 0 |
| 15 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | 0 | NA | 301 to 1000 | 1 |
| 16 | F | 10 to < 20 | > 20 | ≤ 17 | T2N0M0 | 0 | 1 | 0 to 50 | 1 |
| 17 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | NA | NA | 0 to 50 | 1 |
| 18 | F | 10 to < 20 | > 20 | > 17 | T1bN0M0 | 0 | 1 | 301 to 1000 | 1 |
| 19 | F | 5 to < 10 | > 20 | > 17 | T1aN0M0 | 0 | 0 | 101 to 300 | 1 |
| 20 | F | < 5 | > 20 | > 17 | T1aN0M0 | NA | NA | 301 to 1000 | 1 |
| 21 | F | 10 to < 20 | > 20 | > 17 | T3N0M0 | NA | NA | 301 to 1000 | 1 |
| 22 | F | 5 to < 10 | > 20 | > 17 | T1bN0M0 | 0 | 1 | 0 to 50 | 1 |
| 23 | F | 10 to < 20 | > 20 | > 17 | T1bN1aM0 | RET/PTC1 | 0 | 101 to 300 | 1 |
| 24 | F | < 5 | > 20 | > 17 | T1aN0M0 | RET/PTC1 | NA | 301 to 1000 | 1 |
| 25 | M | < 5 | > 20 | > 17 | T1bN0M0 | NA | 0 | 101 to 300 | 1 |
| 26 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | 0 | 0 | 101 to 300 | 1 |
| 27 | F | < 5 | > 20 | > 17 | T3N1abM0 | 0 | 1 | 51 to 100 mGy | 1 |
| 28 | F | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | 0 | 1 | 101 to 300 | 1 |
| 29 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | 0 | NA | 0 to 50 | 1 |
| 30 | M | 10 to < 20 | > 20 | > 17 | T2N0M0 | 0 | 0 | 301 to 1000 | 1 |
| 31 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | NA | NA | 0 to 50 | 1 |
| 32 | F | 5 to < 10 | > 20 | ≤ 17 | T1bmN0M0 | 0 | 1 | 301 to 1000 | 0 |
| 33 | M | 10 to < 20 | > 20 | ≤ 17 | T1bN0M0 | 0 | 0 | > 1000 | 0 |
| 34 | F | 10 to < 20 | > 20 | ≤ 17 | T3N1aM0 | RET/PTC1 | 0 | 51 to 100 mGy | 0 |
| 35 | M | 10 to < 20 | > 20 | > 17 | T1bN1aM0 | 0 | 0 | 51 to 100 mGy | 0 |
| 36 | M | 5 to < 10 | > 20 | ≤ 17 | T3mN1abM0 | RET/PTC3 | 0 | 51 to 100 mGy | 0 |
| 37 | F | 5 to < 10 | > 20 | ≤ 17 | T2N0M0 | 0 | 0 | > 1000 | 0 |
| 38 | M | < 5 | > 20 | > 17 | T1amN0M0 | RET/PTC1 | NA | > 1000 | 0 |
| 39 | F | 5 to < 10 | 10 to < 20 | ≤ 17 | T1bN0M0 | 0 | 0 | > 1000 | 0 |
| 40 | F | < 5 | 10 to < 20 | ≤ 17 | T3N1aM0 | RET/PTC1 | 0 | 0 to 50 | 0 |
| 41 | M | < 5 | 10 to < 20 | > 17 | T3N0M0 | 0 | 0 | 101 to 300 | 0 |
| 42 | F | < 5 | > 20 | > 17 | T1bN1aM0 | 0 | 0 | > 1000 | 0 |
| 43 | F | 10 to < 20 | > 20 | ≤ 17 | T3N0M0 | 0 | 0 | > 1000 | 0 |
| 44 | M | 10 to < 20 | > 20 | ≤ 17 | T2N0M0 | NA | 0 | 0 to 50 | 0 |
| 45 | F | 10 to < 20 | > 20 | ≤ 17 | T1aN0M0 | 0 | 0 | 0 to 50 | 0 |
| 46 | M | < 5 | 10 to < 20 | ≤ 17 | T3N1abM1 | NA | 0 | 301 to 1000 | 0 |
| 47 | F | 10 to < 20 | > 20 | > 17 | T2mN0M0 | NA | 0 | > 1000 | 0 |
| 48 | F | < 5 | > 20 | > 17 | T1aN0M0 | RET/PTC1 | NA | 51 to 100 mGy | 0 |
| 49 | M | 5 to < 10 | > 20 | > 17 | T3N0M0 | RET/PTC1 | 0 | 0 to 50 | 0 |
| 50 | F | 5 to < 10 | > 20 | ≤ 17 | T1aN0M0 | RET/PTC1 | 0 | > 1000 | 0 |
| 51 | M | < 5 | 10 to < 20 | ≤ 17 | T3N1abM0 | RET/PTC3 | 0 | > 1000 | 0 |
| 52 | M | < 5 | > 20 | > 17 | T2N0M0 | 0 | 0 | 301 to 1000 | 0 |
| 53 | M | 10 to < 20 | > 20 | ≤ 17 | T3N0M0 | 0 | 0 | 51 to 100 mGy | 0 |
| 54 | F | < 5 | 10 to < 20 | ≤ 17 | T3N1aM0 | 0 | 0 | > 1000 | 0 |
| 55 | M | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | RET/PTC1 | 0 | > 1000 | 0 |
| 56 | M | < 5 | 10 to < 20 | ≤ 17 | T1amN0M0 | RET/PTC1 | 0 | > 1000 | 0 |
| 57 | M | 10 to < 20 | > 20 | ≤ 17 | T3mN1abM0 | 0 | 0 | 0 to 50 | 0 |
| 58 | M | 5 to < 10 | > 20 | > 17 | T1bN0M0 | RET/PTC1 | 0 | 101 to 300 | 0 |
| 59 | M | 5 to < 10 | > 20 | ≤ 17 | T3N1abM1 | NA | 0 | 301 to 1000 | 0 |
| 60 | F | 5 to < 10 | > 20 | ≤ 17 | T1amN1bM0 | 0 | 0 | 301 to 1000 | 0 |
| 61 | F | 5 to < 10 | > 20 | > 17 | T1aN0M0 | 0 | 0 | 0 to 50 | 1 |
| 62 | F | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | RET/PTC1 | 0 | 101 to 300 | 0 |
| 63 | F | < 5 | 10 to < 20 | ≤ 17 | T3N0M0 | RET/PTC3 | 0 | > 1000 | 1 |
| 64 | M | 10 to < 20 | > 20 | > 17 | T1aN1aM0 | 0 | 0 | 101 to 300 | 0 |
| 65 | M | 5 to < 10 | > 20 | ≤ 17 | T3N0M0 | 0 | 0 | > 1000 | 0 |
| 66 | M | 10 to < 20 | > 20 | ≤ 17 | T1bN0M0 | 0 | 1 | 0 to 50 | 0 |
| 67 | M | 10 to < 20 | > 20 | > 17 | T1aN0M0 | 0 | NA | 0 to 50 | 0 |
| 68 | M | 10 to < 20 | > 20 | ≤ 17 | T1bN0M0 | 0 | 0 | > 1000 | 0 |
| 69 | F | 10 to < 20 | > 20 | ≤ 17 | T3N1abM1 | 0 | 0 | 101 to 300 | 0 |
| 70 | F | 10 to < 20 | > 20 | > 17 | T1aN0M0 | NA | NA | 101 to 300 | 0 |
| 71 | M | 10 to < 20 | > 20 | > 17 | T1aN0M0 | 0 | 0 | 101 to 300 | 0 |
| 72 | F | < 5 | 10 to < 20 | ≤ 17 | T1aN1abM0 | 0 | NA | > 1000 | 0 |
| 73 | F | < 5 | 10 to < 20 | ≤ 17 | T1aN0M0 | 0 | 0 | > 1000 | 0 |
| 74 | F | < 5 | 10 to < 20 | > 17 | T3N1aM0 | RET/PTC1 | 0 | > 1000 | 0 |
| 75 | F | 5 to < 10 | > 20 | ≤ 17 | T1bN0M0 | RET/PTC1 | 0 | > 1000 | 0 |
| 76 | F | 5 to < 10 | > 20 | ≤ 17 | T1aN0M0 | NA | 0 | > 1000 | 0 |
| 77 | M | 10 to < 20 | > 20 | ≤ 17 | T3N1aM0 | 0 | 0 | 0 to 50 | 0 |
| 78 | F | 10 to < 20 | > 20 | ≤ 17 | T1bN1aM0 | 0 | 1 | 51 to 100 mGy | 0 |
| 79 | M | 10 to < 20 | > 20 | > 17 | T3N0M0 | 0 | 0 | > 1000 | 0 |
| 80 | M | 10 to < 20 | > 20 | ≤ 17 | T1aN0M0 | 0 | 0 | 101 to 300 | 0 |
| 81 | F | 10 to < 20 | > 20 | ≤ 17 | T1bN0M0 | 0 | 1 | 101 to 300 | 0 |
| 82 | M | < 5 | 10 to < 20 | ≤ 17 | T1bN1abM0 | RET/PTC1 | 0 | 101 to 300 | 0 |
| 83 | F | < 5 | 10 to < 20 | ≤ 17 | T3N0M0 | 0 | 0 | 301 to 1000 | 0 |
| 84 | M | 10 to < 20 | > 20 | ≤ 17 | T1aN1aM0 | 0 | 0 | > 1000 | 0 |