One subject from Group 1 had iron deficiency anemia. None of the subjects had leukocytosis, neutrophilia, lymphocytosis or thrombocytosis. Group 1 and Group 2 were similar regarding hemoglobin A1c \(10.3\% (8 – 11.3)\) vs. \(8.7\% (7.7 – 10.1)\), \(p=0.181\), FT4 \(1.05\,\text{ng/dL} (1.01 – 1.11)\) vs. \(1.06\,\text{ng/dL} (0.99 – 1.13)\), \(p=0.931\), and TSH levels \(1.9\,\text{mIU/L} (1.1 – 2.5)\) vs. \(1.4\,\text{mIU/L} (1.1 – 2.7)\), \(p=0.418\). As expected, levels of thyroid-specific autoantibodies were significantly higher in Group 1 \(\text{TgAb, } 28.5\,\text{IU/mL} (2.95 – 154.9)\) vs. \(0.86\,\text{IU/mL} (0.77 – 1.61)\), \(p=0.001\); \(\text{TPOAb, } 173.7\,\text{IU/mL} (47.4 – 399.9)\) vs. \(0.18\,\text{IU/mL} (0.06 – 0.25)\), \(p=0.001\). Positivity rates of TPOAb, TgAb, and TPOAb&TgAb in Group 1 were \(94.7\% (n=18), 52.6\% (n=10), \text{and } 47.3\% (n=9)\), respectively. Calcium, phosphorus, and alkaline phosphatase levels were all within normal ranges and did not differ between the groups (data not shown). In Group 1, ultrasonographic evaluation of the thyroid \((n=14, 73.7\%)\) yielded a volume SDS of \(0.01 (-0.92 – 0.42)\), coarse echogenicity in nine cases \(64.3\%\), and normal echogenicity in five subjects \(35.7\%).

Serum vitamin D levels of the subjects were all below 20 ng/mL in both groups, indicating that none of the patients was vitamin D sufficient (Table 2).

Levels of vitamin D, total IgG and IgG subclasses, ratios of IgG subclasses to total IgG, and number of subjects with IgG1, IgG2, and IgG3 levels > +2 SD were similar between the groups. IgG4 levels of the patients are shown in Figure 1. Five patients \(26\%\) in Group 1 had IgG4 levels above the upper limit of

![Figure 1. Levels of IgG4 in cases with (Group 1) and without (Group 2) autoimmune thyroiditis. Dotted lines indicate +2 autoantibodies were significantly higher in Group 1 (TgAb, 28.5 IU/mL (2.95 – 154.9) vs. 0.86 IU/mL (0.77 – 1.61), p=0.001; TPOAb, 173.7 IU/mL (47.4 – 399.9) vs. 0.18 IU/mL (0.06 – 0.25), p=0.001. Positivity rates of TPOAb, TgAb, and TPOAb&TgAb in Group 1 were 94.7% (n=18), 52.6% (n=10), and 47.3% (n=9), respectively. Calcium, phosphorus, and alkaline phosphatase levels were all within normal ranges and did not differ between the groups (data not shown). In Group 1, ultrasonographic evaluation of the thyroid (n=14, 73.7%) yielded a volume SDS of 0.01 (-0.92 – 0.42), coarse echogenicity in nine cases (64.3%), and normal echogenicity in five subjects (35.7%).

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\begin{table}
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\caption{Vitamin D, parathormone, and immunoglobulin results of the groups} \label{tab:1}
\begin{tabular}{lccc}
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                        & Group 1 (n=19) & Group 2 (n=19) & \(p\) \\
\hline
25-OH Vitamin D (ng/mL)       & 10.7 (8.8 – 13.3) & 9.8 (7.7 – 11) & 0.284 \\
PTH (pg/mL)                & 48.1 (35.7 – 54.0) & 47.2 (29.9 – 65.8) & 0.988 \\
Total IgG (mg/dL)          & 1100 (948 – 1300) & 1020 (790 – 1240) & 0.123 \\
IgG1 (mg/dL)               & 727 (640 – 843) & 680 (508 – 806) & 0.191 \\
IgG1/Total IgG             & 0.68 (0.62 – 0.73) & 0.67 (0.62 – 0.69) & 0.773 \\
IgG1 level > + 2 SDS       & 3 (16%) & 1 (5%) & 0.604 \\
IgG2 (mg/dL)               & 266 (211 – 399) & 222 (184 – 299) & 0.096 \\
IgG2/Total IgG             & 0.25 (0.22 – 0.32) & 0.25 (0.21 – 0.28) & 0.370 \\
IgG2 level > + 2 SDS       & 7 (37%) & 2 (10%) & 0.124 \\
IgG3 (mg/dL)               & 82 (57 – 129) & 64 (53 – 107) & 0.506 \\
IgG3/Total IgG             & 0.075 (0.046 – 0.107) & 0.077 (0.059 – 0.105) & 0.563 \\
IgG3 level > + 2 SDS       & 9 (47%) & 5 (26%) & 0.179 \\
IgG4 (mg/dL)               & 20.8 (9.6 – 68.2) & 17.2 (9.8 – 27.6) & 0.130 \\
IgG4/Total IgG             & 0.025 (0.009 – 0.055) & 0.017 (0.009 – 0.033) & 0.223 \\
IgG4 level > + 2 SDS       & 5 (26%) & 0 (0%) & 0.046 \\
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