**Title: The utility of 4D-CT imaging in primary hyperparathyroidism management in a low volume center**

Tables 1. and 2.

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| Table 1. Preoperative characteristics of the patients |
| Characteristic | Patients, n=245 |
| Age (y) | 66 (58-74) |
| Female gender, n (%) | 218 (89.0%) |
| iCa\* | 1.51 (1.44-1.61) |
| PTH# | 15.0 (10.4-25.3) |
| Phosphate¤ | 0.86 (0.73-0.95) |
| Parathyroid imaging: - US, n (%) - successful localization, n (%) - SPS, n (%) - successful localization, n (%) - 4D-CT, n (%) - successful localization, n (%) | 236 (96.3)74 (31.4)93 (38.0)54 (58.1)52 (21.2)49 (94.2) |
| Data are presented as median (with interquartile range) or percentages*Y* years; *iCa* ionized calcium; *PTH* parathyroid hormone; *US* ultrasonography; *SPS* sestamibi parathyroid scan; *4D-CT* four-dimensional computed tomography\*Reference value 1.16-1.32 mmol/L, #Reference value 1.6-6.9 pmol/L, ¤Reference value 0.81-1.45 mmol/L |

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| Table 2. Comparison of operative and follow-up characteristics of the patients according to the results of preoperative imaging |
|  | Localized via US or SPS (106) | Localized via 4D-CT (49) | Non-localized PTG (90) | p-value |
| Operative characteristics: |  |  |  |  |
|  - Operative time (min) | 53 (36-71) | 35 (24-56) | 51 (41-64) | **0.004** |
|  - Removed ≥2 PTG, n (%) | 25 (23.6) | 7 (14.3) | 32 (35.6) | **0.018** |
|  - True multiglandular disease&, n (%) | 17 (16.0) | 5 (10.2) | 16 (17.8) | 0.505 |
|  - PTG size (mm) | 15 (10-20) | 13 (10-19) | 15 (8-20) | 0.728 |
|  - Simultaneous thyroid surgery, n (%) | 30 (28.3) | 14 (28.6) | 47 (52.2) | **0.001** |
| Complications, n (%)  | 14 (13.2) | 1 (2.0) | 9 (10.0) | 0.076 |
|  - Wound hematoma, n | 0 | 0 | 3 | - |
|  - RLN injury, n | 3 | 1 | 1 | - |
|  - Subjective dysphonia, n  | 5 | 0 | 0 | - |
|  - Other | 6 | 0 | 5 | - |
| Length of stay (d) | 2 (2-2) | 2 (2-2) | 2 (2-2) | 0.272 |
| Follow-up (30 day): |  |  |  |  |
|  - iCa\* | 1.29 (1.23-1.35) | 1.25 (1.22-1.32) | 1.29 (1.23-1.33) | 0.318 |
|  - PTH# | 7.1 (5.1-12.3) | 5.6 (4.3-7.6) | 6.2 (3.8-11.0) | 0.082 |
| Follow-up (1 year): |  |  |  |  |
|  - iCa\* | 1.27 (1.23-1.30) | 1.25 (1.20-1.32) | 1.26 (1.22-1.33) | 0.798 |
|  - PTH# | 5.4 (4.5-9.9) | 5.7 (3.8-8.3) | 5.4 (3.7-9.5) | 0.735 |
| Redo surgery, n (%) | 13 (12.3) | 3 (6.1) | 7 (7.8) | 0.467 |
| Data are presented as median (with interquartile range) or percentages*US* ultrasonography; *SPS* sestamibi parathyroid scan; *4D-CT* four-dimensional computed tomography; *PTG* parathyroid gland; *RLN* recurrent laryngeal nerve; *iCa* ionized calcium; *PTH* parathyroid hormone& Histologically proven multiglandular parathyroid gland involvement, \*Reference value 1.16-1.32 mmol/L, #Reference value 1.6-6.9 pmol/L, ¤Reference value 0.81-1.45 mmol/L |