

Hypothesis and Objectives

3

Based on the knowledge that in the vast majority (>85%) of patients primary hyperparathyroidism is caused by a single parathyroid adenoma, and stimulated by the potential for preoperative localization of present imaging technology (illustrated in chapter one) the following hypothesis was formulated:

A substantial group of patients with primary hyperparathyroidism can be successfully treated by limited access surgery after preoperative localization studies and may thus be spared unnecessary extensive dissection (conventional neck exploration).

To confirm this hypothesis the following questions were addressed in the studies presented in this thesis:

- 1 a) Is minimally invasive adenectomy a safe and reliable alternative to conventional neck exploration ?
b) Is minimally invasive adenectomy associated with higher morbidity compared to conventional neck exploration ?
c) In how many patients can conventional neck exploration be replaced by minimally invasive adenectomy ?
(chapter 4: Direct, minimally invasive adenectomy for primary hyperparathyroidism: an alternative to conventional neck exploration ?)
- 2 Provided minimally invasive adenectomy is validated as a safe alternative to conventional neck exploration, would that imply that this technique should be restricted to symptomatic patients, or should asymptomatic patients also be considered for this procedure as well ?
(chapter 5: Strategy in asymptomatic and mildly symptomatic primary hyperparathyroidism, new arguments for the surgical option)
- 3 How reliable is Doppler ultrasonography combined with computed tomography, and Doppler ultrasonography with selective supplemental computed tomography in the selection for minimally invasive adenectomy ?
(chapter 6: Minimally invasive surgery of solitary parathyroid adenomas in patients with primary hyperparathyroidism; Role of ultrasonography with supplemental computed tomography)
- 4 a) Will a modification of standardized parathormone assay result in a quick and reliable assay to ascertain success of parathyroid surgery ?
b) And can it be used on a routinely base in the surgical treatment of primary hyperparathyroidism ?
(chapter 7: Peroperative PTH testing: confirmation of successful surgical treatment of primary hyperparathyroidism)

- 5 a) How reliable are commercially available non-portable parathormone assays in predicting surgical outcome ?
b) Can these tests serve as an alternative for (expensive) commercially available portable assays ?
(chapter 8: Perioperative parathormone assessment during surgery for primary hyperparathyroidism; Comparison of four techniques)

- 6 a) What are the costs of minimally invasive adenectomy and conventional neck exploration, taken from a hospital point of view ?
b) Which appreciable variables can be identified and what is the degree of change required to eliminate differences in costs ?
(chapter 9: Cost-analysis of minimally invasive surgery and conventional neck exploration for primary hyperparathyroidism)

