

# Our Tecnique Simplify the Minimally invasive Parathyroidectomy: Ultrasound Assisted Guided Wire Localization for Solitary Parathyroid Adenomas

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## Objectives:

Primary hyperparathyroidism (pHPT) is characterised by hypercalcemia with high parathormone (PTH) levels in the absence of secondary or tertiary causes. The most of patients with pHPT have solitary adenoma (1). Bilateral cervical exploration with identification parathyroid glands and removal of hyperfunctioning adenoma is the main treatment (2). Recent years minimally invasive parathyroidectomy (MIP) has become a popular technique in parathyroid surgery. Smaller incision, can be done with local anaesthesia, less tissue trauma, less postoperative pain, shortened hospitalisation time are the advantages of the MIP. The success of the MIP surgery is related to correct pre and postoperative adenoma localization (3).

## Methods:

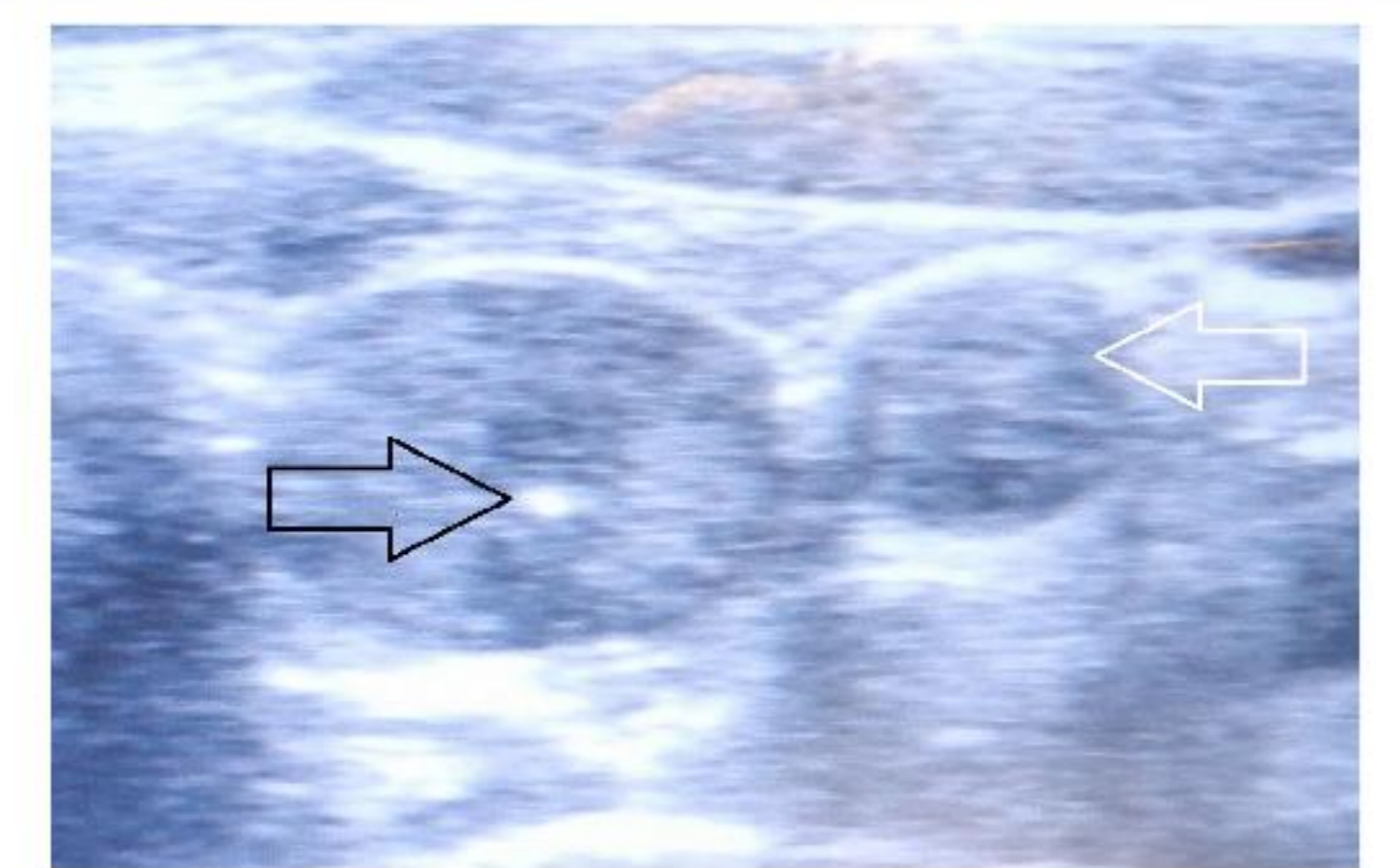
In our prospective nonrandomised study, we included 36 patients with solitary parathyroid adenoma diagnosed preoperatively by 99m Tc sesta MIBI scintigraphy and/or neck ultrasonography (table 1). Ultrasound guided wire placed in the solitary parathyroid adenoma preoperatively (figure 1). Under local anaesthesia plus sedation, minimal invasive parathyroidectomy performed (figure\_2A). After the excision, parathyroidectomy was confirmed with postoperative ultrasonography (figure\_2B).

Table 1. Demographics of the study group.

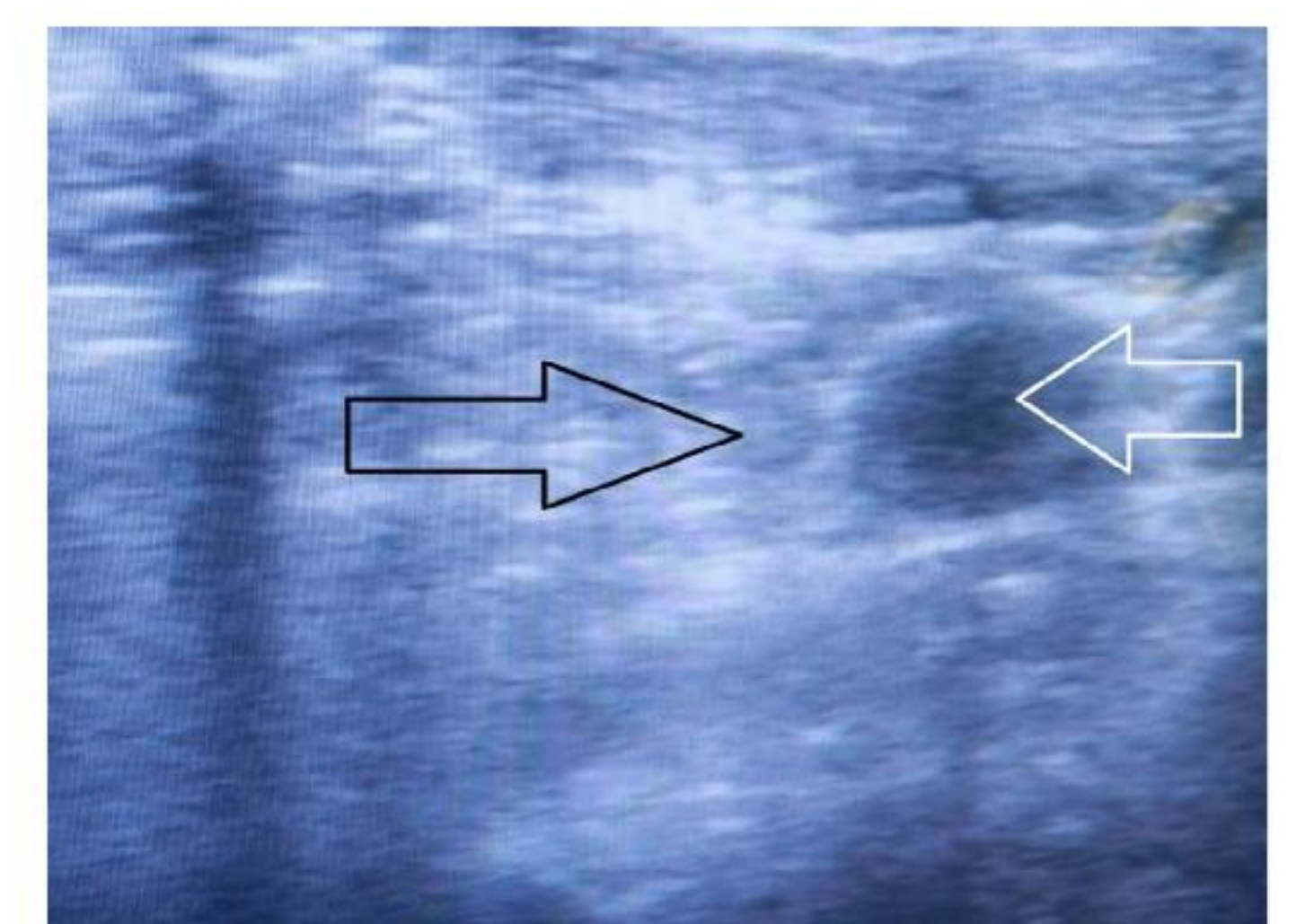
Gender	
Female	30 (83.3%)
Male	6 (16.7%)
Age, years	54.89 ± 11.28
PTH pg/mL	
Pre-op, median	269.5 (range 83.5-5000)
Post-op	42.04 ± 26.65
Calcium mg/dL	
Pre-op, median	12.2 (range 11.1-20)
Post-op	8.95 ± 0.74
Localization of the adenoma in the USG	
Right	22 (61.1)
Left	14 (38.9)
Localization of the adenoma in the MIBI	
Right	19 (57.6)
Left	14 (42.4)



Figure 1



Figure\_2A



Figure\_2B

## Results:

36 patients included in our study. Mean age of the patients was 54.89 ± 11.28 years, and 30 of patients were female (%83.3). Preoperative PTH and Ca levels are 269.5 pg/mL (83,5-5000 pg/mL) and 12,2 mg/dL (11,1-20 mg/dL), respectively. Postoperative serum PTH and Ca levels were 42.04 ± 26.65 pg/mL and 8.95 ± 0.74 mg/dL, respectively. Mean operation time was 21.69 ± 6.4 minute and average hospitalisation time was 18 hours (10-72 hours).

## Conclusions:

Ultrasound assisted guided wire localization can be useful in MIP for selected cases. Higher success rates, easy to learning and practising are the advantages of this method.

## References:

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