Parathyroid Neoplasms

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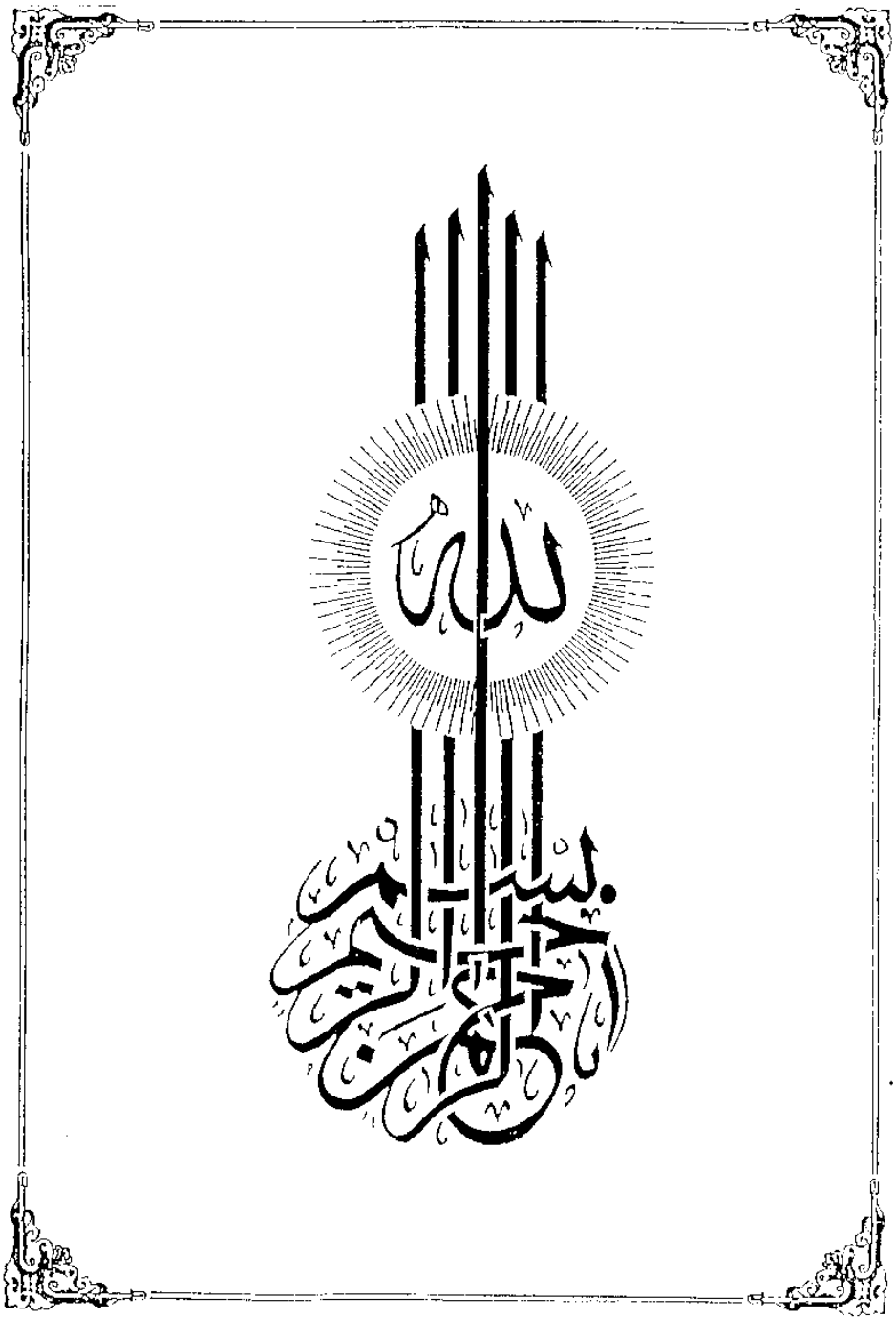

TO MY FAMILY

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INTRODUCTION

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The parathyroid tumours are important to know, as they are responsible for most of primary cases of hyperparathyroidism i.e. about 80 % of cases.

Tumours of prathyroid glands are diagnosed more frequently today than a decade ago, because it is being sought more aggressively. Most hospitals now include calcium and phosphorus determination as a part of their admission screening laboratory evaluation as it is the only means to diagnose tumours as early as possible.

The early diagnosis of parathyroid tumours is badly needed because of the following points:-

1. Parathyroid tumours are regarded as the major cause of primary hyper parathyroidism, and in turn primary hyperparathyroidism, is thought to occur in 0.1 - 0.5 % of general population, which is good proportion.

2. Parathyroid tumours are very small to be diagnosed by clinical examination, and we have to screen any patient with suspicious symptoms for parathyroid tumours.

3. It is very difficult to diagnose parathyroid tumours in its early stage clinically, as they manifest in their early stage by non specific symptoms.

At the same time, the usual diagnosis of parathyroid tumour, after being manifested by complications on urinary tract or bone, which is should be regarded as late as in most cases, it presents with irreversible changes.

The extremely low morbility & mortility and good prognosis after surgical interference of parathyroid tumours, calls for mandatory early diagnosis.

From above data we have to re-emphasize, that through knowledge of parathyroid tumours, with admission screening laboratory evaluation of serum calcium and phosphate for any doubtful cases, is the only means, by which, we can eradicate the bad effects of parathyroid tumours, with more or less unrisky operation, in order to save guard 0.1 - 0.5 of the population from the dreadful fate of parathyroid tumours which in some cases may end in fatal issue.

SURGICAL ANATOMY OF PARATHYROID GLANDS

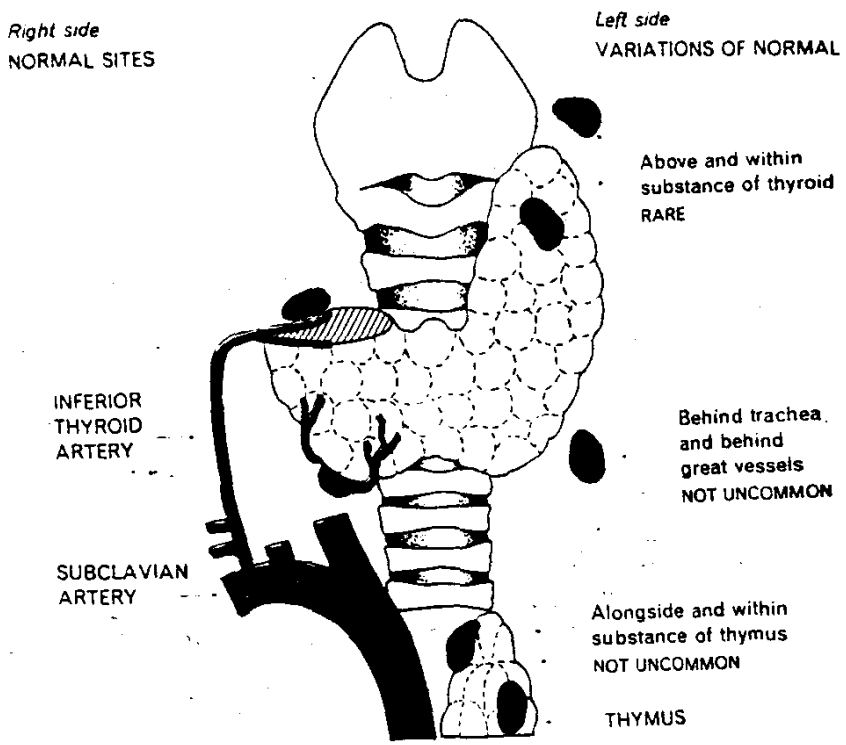

Fig.(1): Normal and abnormal sites for parathyroid glands. (Anthony, 1988).

SURGICAL ANATOMY OF THE PARATHYROID GLANDS

Typically there are four parathyroid glands. Of 354 adults studied at autopsy, 90.6 percent had four glands, 3.7 percent had five, 5.1 percent had three and 0.6 percent had two glands. In only one of 18 patients with three identified parathyroid glands was the combined weight of the glands sufficiently high to suggest that non had been overlooked. Therefare it was concluded that nearly all persons have four or more parathyroid glands (WELLS, 1986).

The presence of as many as eight parathyroid glands has been documented, but patients with fewer than three or more than five are very uncommon. (RICARDO et al., 1985).

POSITION OF THE UPPER PARATHYROID GLANDS:-

ARKESTROM and his associates (1984) found that the superior parathyroid glands in about 80 % of patients were located within a circumscribed area of 2 cm in diameter about 1 cm above the intersection of the recurrent laryngeal nerve and the inferior thyroid artery. In 4 % of patients, superior parathyroid glands were located futher down and sometimes were obscured by the inferior thyroid artery, recurrent laryngeal nerve or a prostrusion of the thyroid. High location of superior parathyroid glands at the level of the superior pole of the thyroid gland was found in 2 % of patients and location above the upper thyroid pole was found in 0.8 % of the patients. In 1 % of patients superior paratyroids

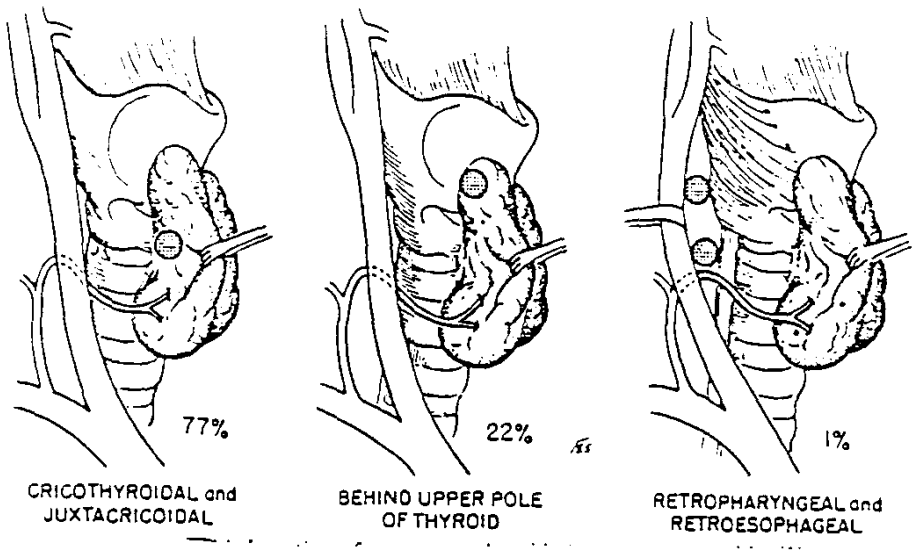

Figure (2): Location of upper parathyroid glands (Wang, 1976).

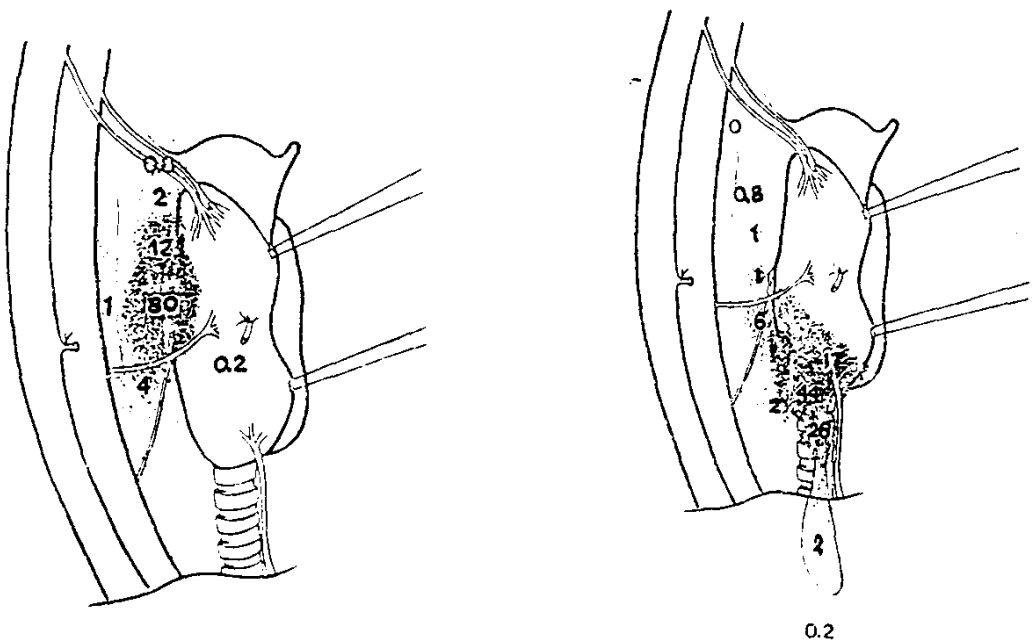

Figure (3): A- Location of upper glands B- Location of lower glands The numbers represent the percentage of glands at the different locations. (Akerstrom et al., 1984).]

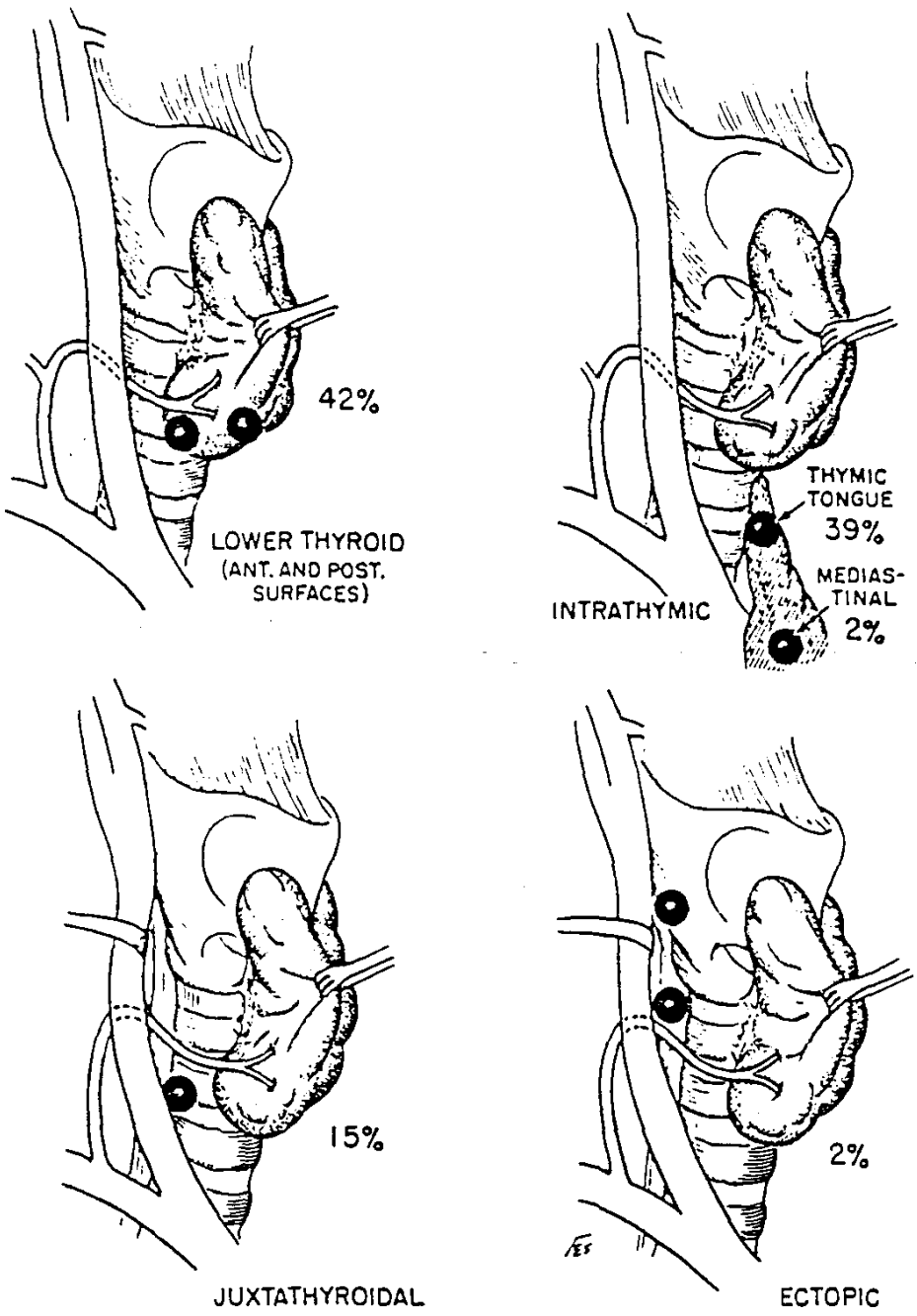

Figure (4) Location of lower parathyroid glands (Wang, 1976).

were found in an ectopic position posteriorly in the neck in the retro-pharyngeal or retropharyngeal space (AKERSTROM et al,.1894).
The position of the glands on one side was symmetric with that on the other side in approximately 80 % of patients.

POSITION OF THE LOWER PARATHYROID GLANDS :-

The commonest location of the inferior parathyroid glands lay somewhat more ventrally the superrior glands, close to the lower thyroid pole or in the upper thymus. Inferior parathyroid glands more than 2 cm below the lower pole of the thyroid are associated universally with thymic tissue. Verry rarely parathyroid glands were located in the pericardium (RICADO et al.,1985).
The lower parathyroid glands are more widely distributed than the upper parathyroid. In 1976, WANG reported that about 42 % of parathyroids were found in an anterior or in posterolateral surface of the lower pole of the thyroid. About 39 % of parathyroids were located in the lower neck within the thymic tangue, which distinct structure at the thoracic inlet, extending from the lower thyroid pole to the mediastinal thymus. 2 % were found inside the mediastinal thymus 3 to 4 cm below the sternal notch. About 15% of parathhyroids were lateral to the lower thyroid pole in a juxtathyroidal position. 2 % of parathyroids occupied an ectopic position high in the carotid bifurcation,another ectopic location was in the midthyroid near but outside of the carotid sheath. (WANG, 1976).

SIZE,WEIGHT,COLOUR CONSISTENCY AND SHAPE OF PARATHYROIDGLANDS:-

Excluding the fat, WANG in 1976, reported that the average size of parathyroid gland was 5x3x1 mm. The largest gland was 12x2x1 mm

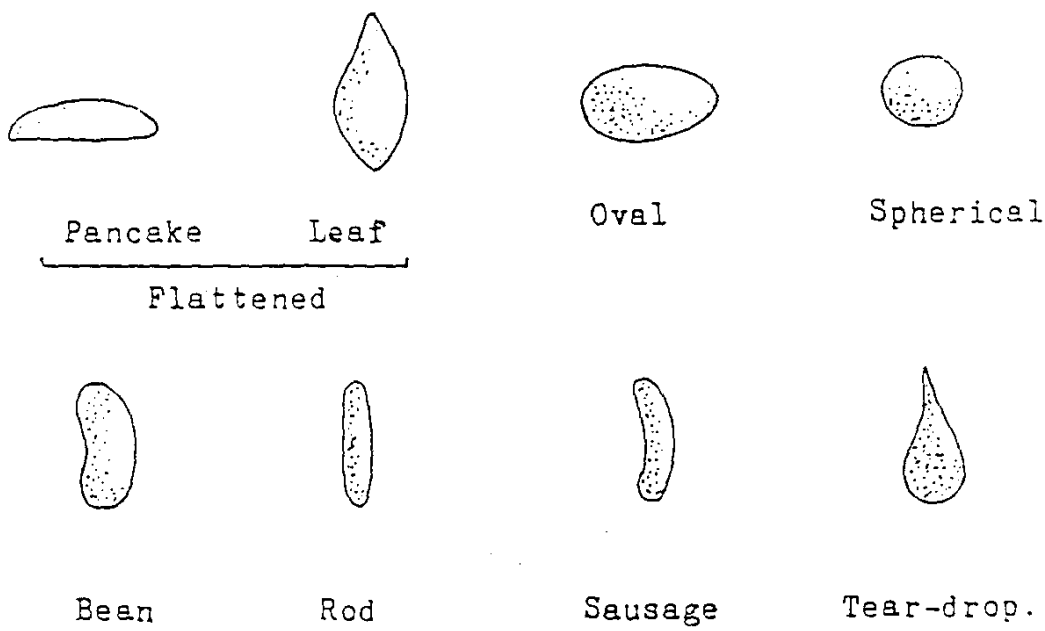

Fig.(5): Variations in shape of normal parathyroid glands . (Wang, 1976).