# Cancer Of The Thyroid Gland

*An Essay Submitted for the*
*Partial Fulfilment of the*
*Master Degree in*
**General Surgery**



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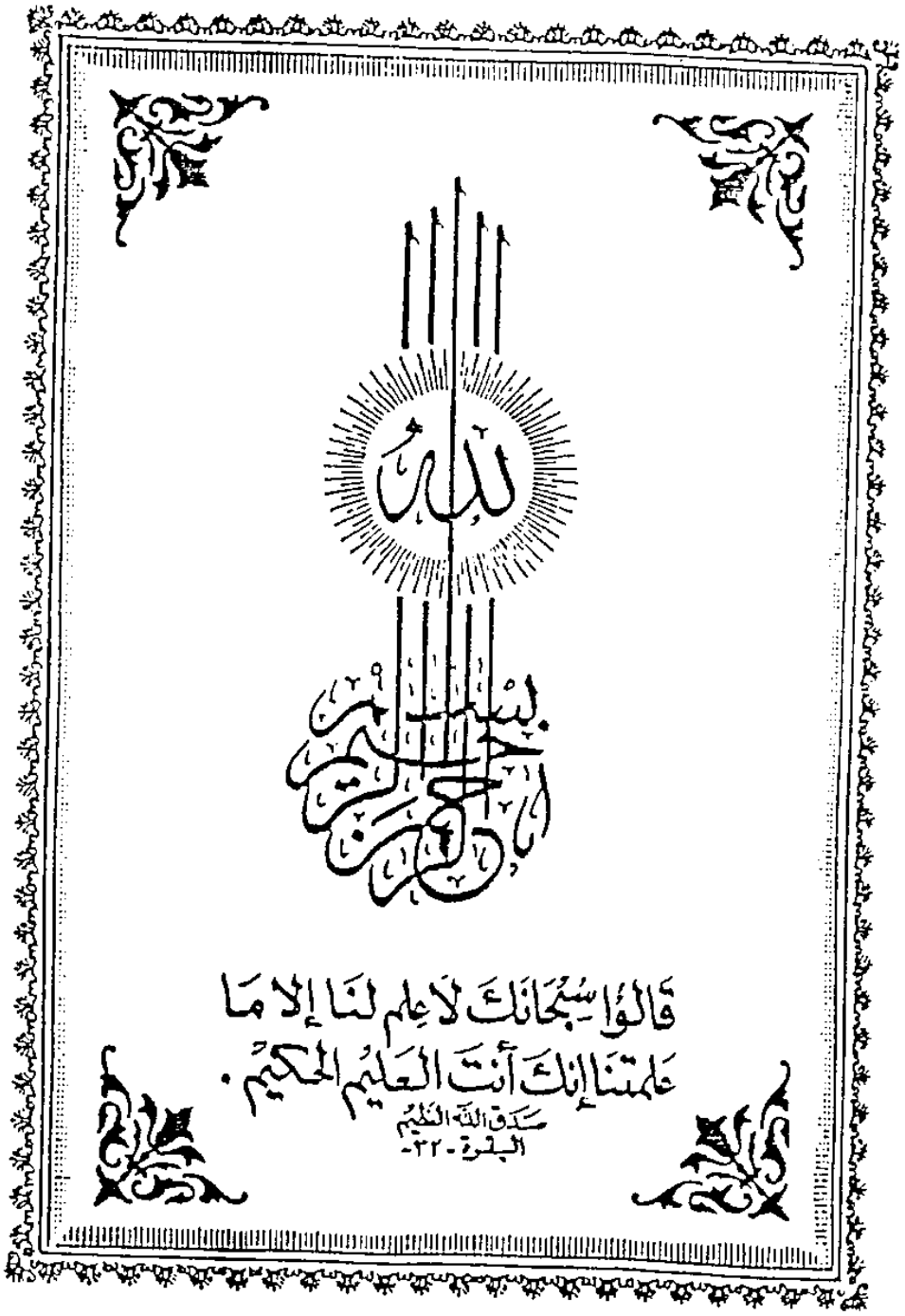
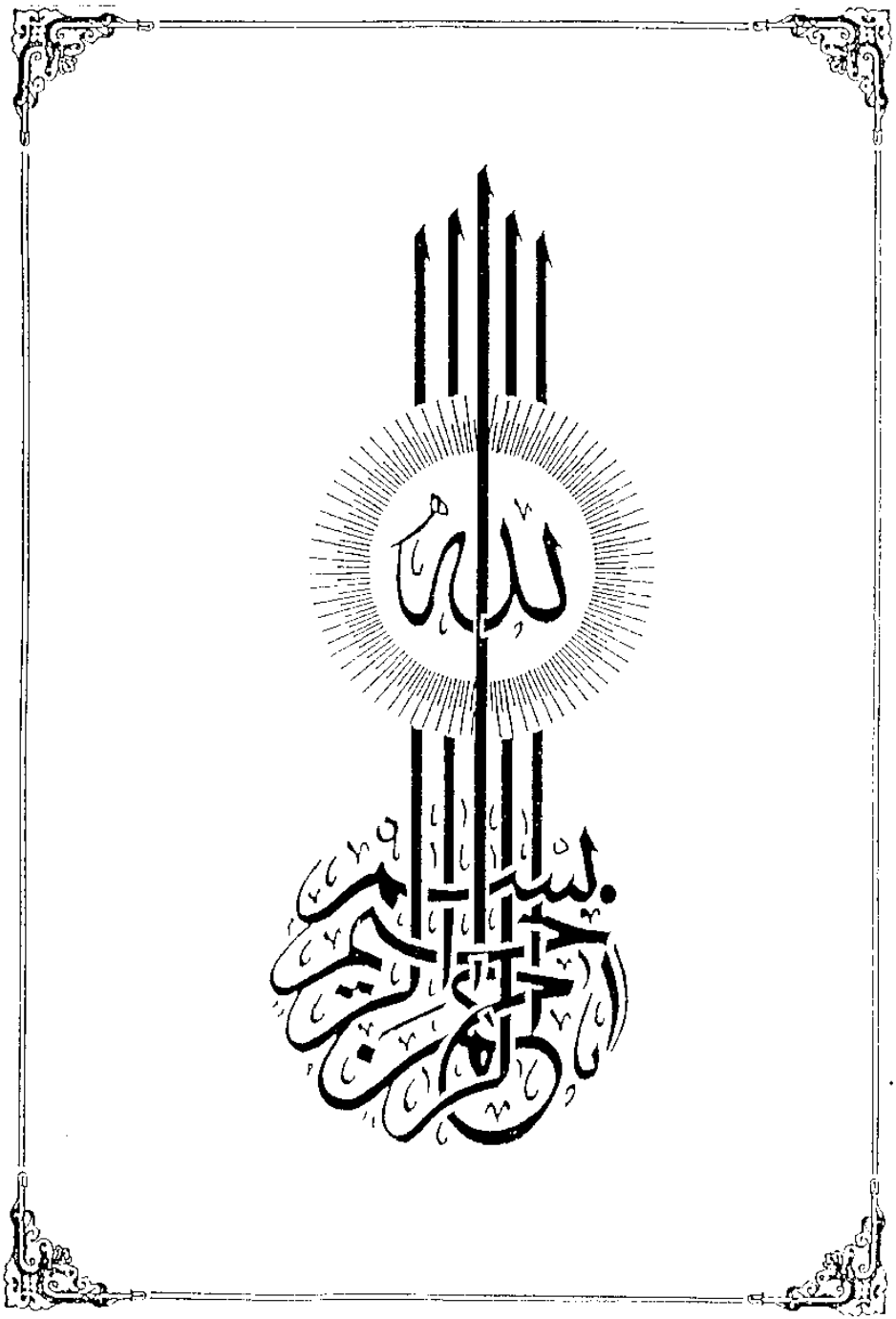
**1993.**





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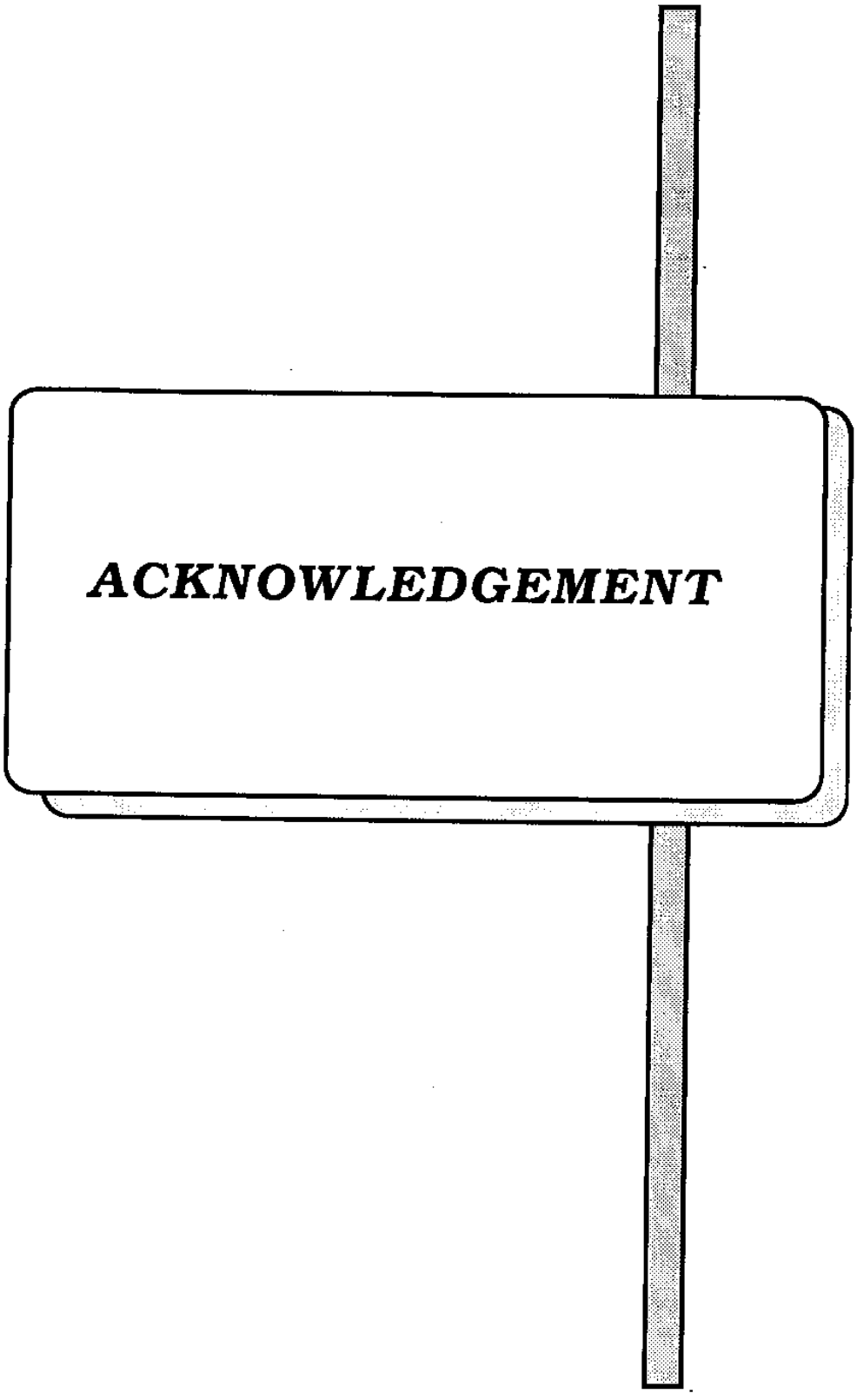

# *Acknowledgement*

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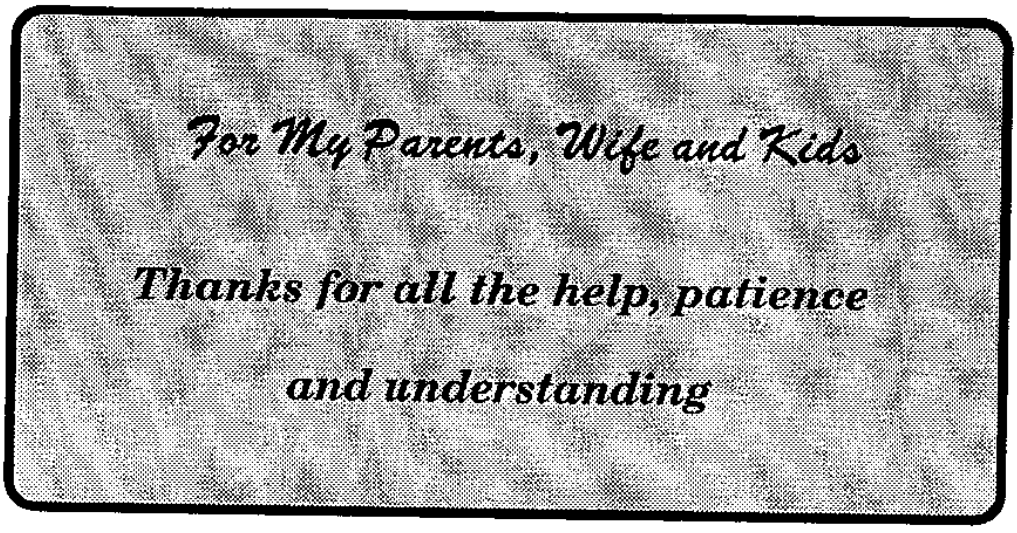
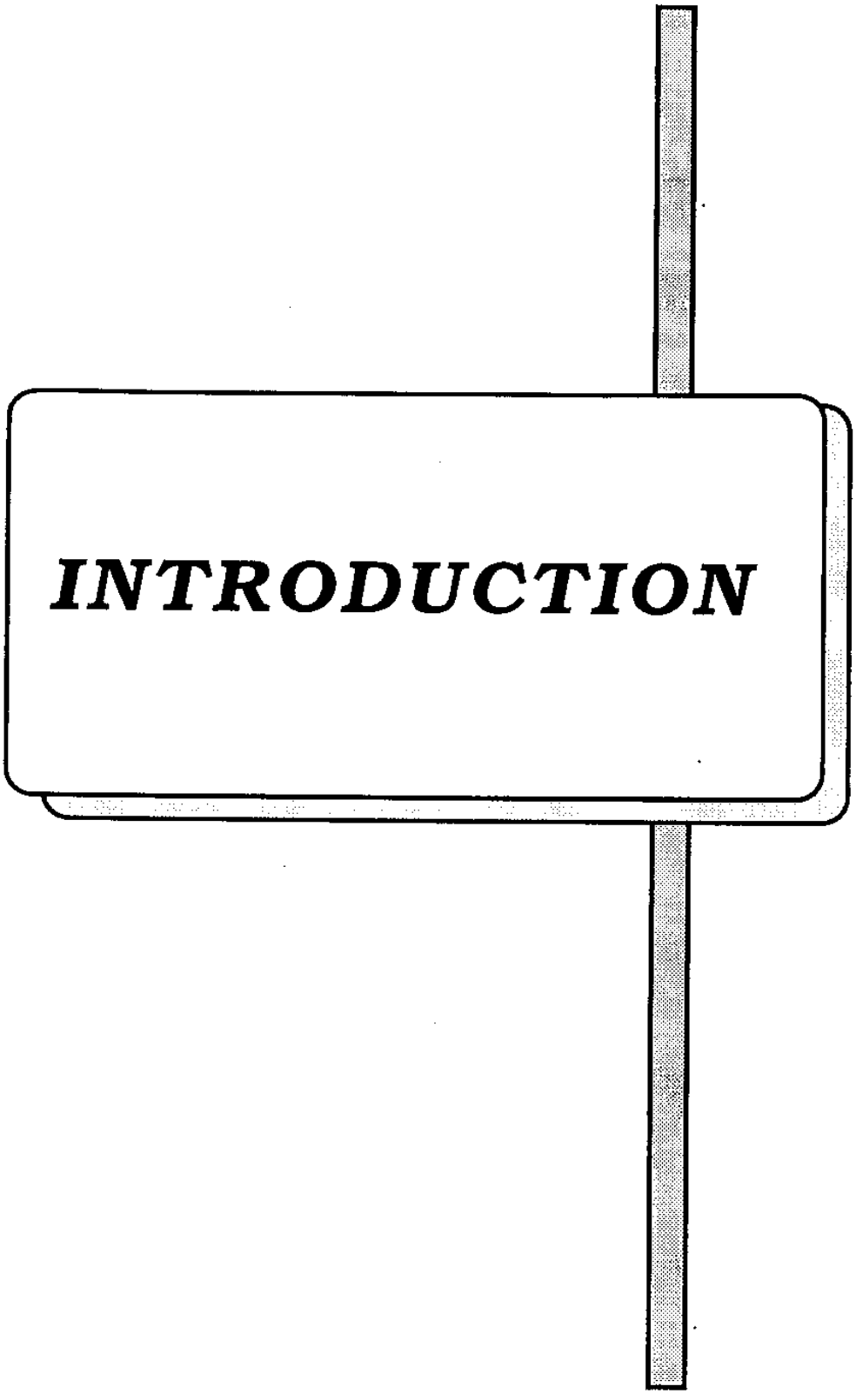




# INTRODUCTION

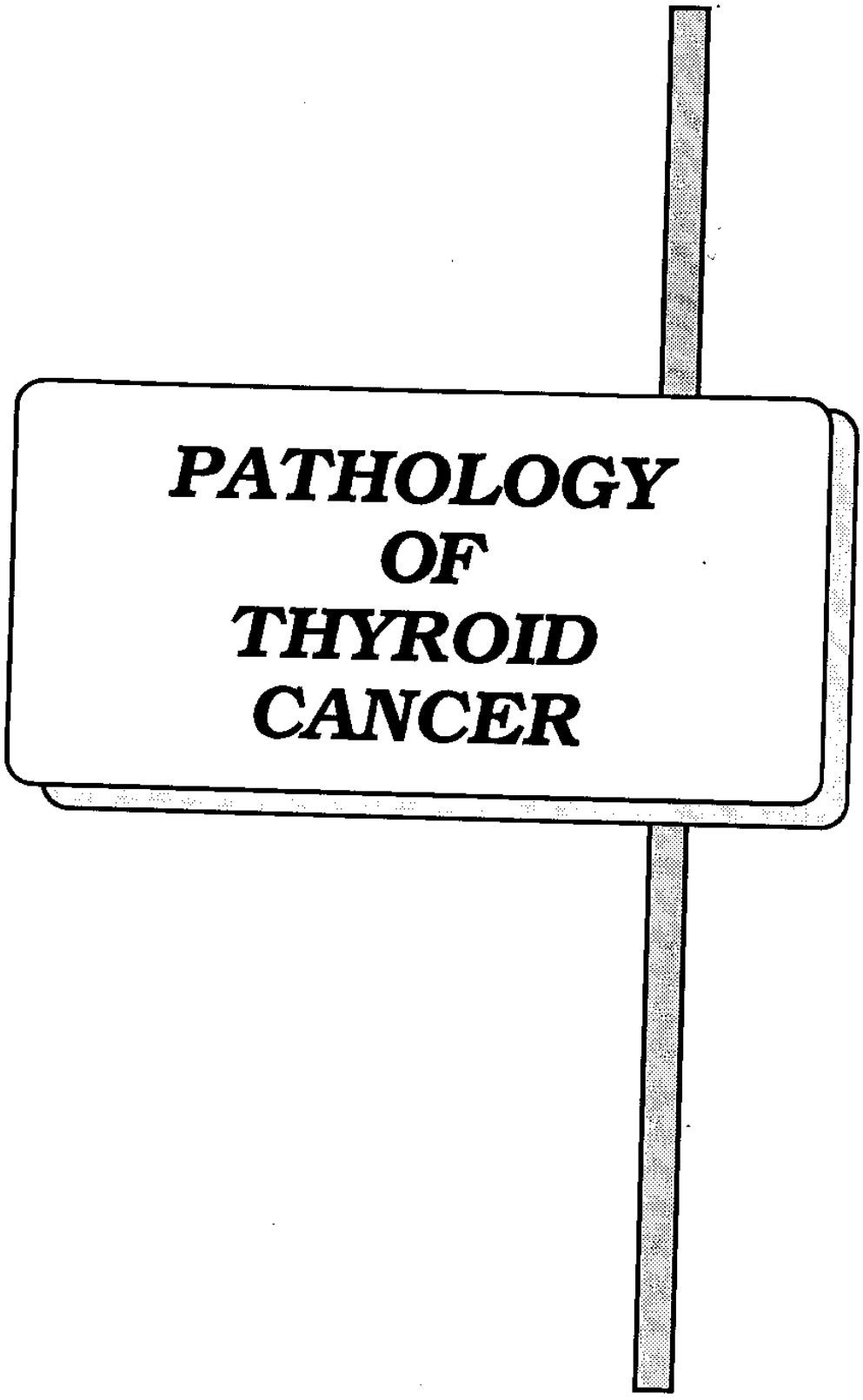
Though cancer of the thyroid gland is among the least common forms of malignancies in general, it is the highest among cancers affecting the endocrine glands excluding the ovaries (Moderator et al 1991).

It has attracted considerable interest and evoked much controversy for a number of reasons, firstly the disease tends to occur primarily in younger age group of patients in whom it generally has an excellent prognosis, secondly whilst thyroid cancer is rare, the nodular disease of the thyroid gland in its both single and multinodular forms is very common in almost all communities and so the question of accurate diagnosis and the role of surgery for presumed thyroid cancer is a clinical reality frequently encountered by surgeons.

Considering the recent advances. Our work will be directed to answer two main questions firstly what is the most

valuable preoperative diagnostic modality for a case in which cancer thyroid is suspected clinically?

Secondly what are the most appropriate lines of treatment to be followed?



## PATHOLOGY OF THYROID CANCER

There is good correlation between the histologic picture and prognosis in thyroid cancer. In addition the histologic picture of the tumor correlates to other features in the natural history of the disease better than in malignant tumors of the most other organs. For this reason an accurate histologic classification of thyroid tumors is important.

**Classification:**

Wade (1975) classified thyroid tumors according to the cell of origin, the generally accepted WHO classification does not differ much yet it is more simple and convenient (Hedinger et al 1989). (Table 1)

Some ivnestigators classify thyroid cancer according to the biologic behaviour into well differentiated (papillary and encapsulated follicular) carcinomas characterized by indolence and relatively good prognosis or poorly differentiated (invasive follicular and anaplastic) carcinomas

associated with aggressive behaviour, metastases and short survival.

Table (1): WHo classification for thyroid cancer.

| |
|---|
| **(1) Epithelial tumors:** |
| **A- Benign:** |
| 1- Follicular adenoma. |
| 2- Others. |
| **B- Malignant:** |
| 1- Follicular carcinoma. |
| 2- Papillary carcinoma. |
| 3- Squamous cell carcinoma. |
| 4- Undifferentiated (anaplastic) carcinoma. |
| a- Spindle cell type. |
| b- Giant cell type. |
| c- Small cell type. |
| 5- Medullary carcinoma. |
| **(2) Non-epithelial tumors:** |
| **A- Benign.** |
| **B- Malignant:** |
| 1- Fibrosarcoma. |
| 2- Others. |
| **(3) Miscellaneous Tumors** |
| 1- Carcinosarcoma. |
| 2- malignant haemangio endothelioma. |
| 3- Malignant lymphoma. |
| 4- Teratoma. |
| **(4) Secondary tumors.** |
| **(5) Unclassified tumors.** |
| **(6) Tumor like lesions.** |

**Table (2):** The estimated number of new cases of and deaths from thyroid cancer in USA in 1990

| Type of Cancer | New Cases | | | Deaths | | |
|---|---|---|---|---|---|---|
| | Total | M. | F. | Total | M. | F. |
| **Endocrine glands** | | | | | | |
| Thyroid | 12100 | 3200 | 8900 | 1025 | 375 | 650 |
| Others | 1500 | 800 | 700 | 725 | 400 | 325 |
| **Genital organs** | | | | | | |
| Ovary | 20500 | - | 2500 | 12400 | - | 12400 |
| Testis | 5900 | 5900 | - | 350 | 350 | - |

M Males

F Females

(Silverberg and Collegues 1980).

Recently however variants of papillary cancer have also been associated with poor prognosis and the existence of true mixed forms of papillary and follicular cancers has been disproved (Moderator et al 1991).

In clinical practice the commonly encountered thyroid carcinomas are either well differentiated (papillary, and

follicualr), anaplastic (undifferentiated), medullary carcinomas and lymphomas.

With the exceptions of the last two types recent evidences have shown that the remaining types are all of follicular cell origin and that we are in fact looking at a spectrum of one disease rather than a series of separate and different disease processes, and indeed whilst most patients will demonstrate one type of the tumor predominantly there are numerous clinical examples of all types being demonstrated at different sites or at different times in the same patient.

Thyroid cancer presenting as a clinical problem however is uncommon, with the reported incidence ranging between 2 to 10 cases per 100,000 per year in western societies. (1% of all human cancers).

Death from thyroid cancer is even rare with reported rates ranging between 0.3 and 0.6 per 100,000 in the Unied