Resumè

A l'occasion de quatre cas d' Hematomes Rachidiens Extra duraux, les auteurs ont rassemblè un total de 33 cas.

Après evoir presentè leur 4 observations personnelles ,ils offectuent une synthèse des 33 cas pour discuter les aspects cliniques, radiologiques, operatoires, evolutives et les resultats.

Summary

Four personal cases of Spontaneous Spinal Epidurdl Hemerrhage are Reported. And 29 additional cases have been analysed by reviewing the literature. The clinical, radiologcal and surgical aspects were discussed.

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Statistical Data on 2556 Cases of Endocrine Glands Disorders in Iran(✿)

by

M. BAHADORI, M.D. ✿✿

This is a brief study about endocrine glands accomplished in the departement of pathology under the guidnce of pr. K. Armin.

Endocrine glands are the regulator of the chemical components of the body and the secreted subtances called hormones which they stimulate the cells of the body directly or indirectly. There would be an equilibrium between secretory function of these glands. The activity of the central nervous system in this endeavor must not be under estimated as their co-operation in this sence can not be denied.

Under normal condition on occasions up to 70 per cent of the gland can be removed without apparent disturbance, whereas lesion of a small portion of them may bring about severe sequella and this in fact has been one of the difficulties encountered in pathology and physiology of these organs.

These statistical data is based on about 40.000 surgical specimens and 2500 autopsy cases.

I- THYROID

Histopathological lesions concerning this gland were found in 1097 cases of the surgical and 28 autopsies. Table 1 shows the most important finding in thyroid disorders.

In view of hormonal disturbances these finding are classified in three different groups:

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✿✿ Departement of Pathology, faculty of Medicine, Tehran University.

1- Hyperthyroidism 121 cases
2- Hypothyroidism 54 »
3- Undetermined 950 »

1- Hyperthyroidism- As we well know hyperfunction of the gland may have variety of causes. Hyperthyroidism primarily due to disturbances

Table No.1

1125 cases of thyroid lesion

Lesion	No. of case	%
Goiter	674	60.0
Malignancy	275	24.4
Adenoma	132	11.7
Thyroiditis	32	2.8
Absence (cong.)	3	0.2
Congenital Goiter	1	0.1
Misceleneous	8	0.7
Total	1125	100.0

of hypophysis in not included in this catagory, table2 shows the data on hyperthyroidism.

Table No. 2

Hyperthyroidism

Type Lesion	No. of case	%
Primary Diffuse Hyperplasia	51	42.1
Adenomatous or Nodular Goiter	20	16.5
Adenoma or Ca.	50	41.4
Total	121	100.0

In patients with hyperfunction of thyroid due to the increase of thyroxin secretion a reduction in activity of pituitary would appear, and an account of reduction in amount of A.C. T. H., slowing down of the adrenal gland willset out, and a detectable increase in lymphatic tissue all over the body would result.

Apart from the disturbances of the gland itself, one would observe local degeneration and necrosis of muscular tissues including myocardium accompanied by lymphocitic infiltration and lipid degeneration and necrosis of liver,plus demineralization of the osseous tissues, but none of the histopathological manifestation mentioned is characteristic of hyperthyroidism, and even hyperplasia of the gland itself can be accounted as an exclusive factor.

2- Hypothyroidism - 54 cases.

Deficient secretion of thyroid may have a congenital basis which may cause cretinism, or may be secondary phenomenon which occurs after birth or during puberty period, so called myxedema. It must be borne in mind that mild clinical picture of hypothyroidism may be seen in secondarily affected patients.

Table 3 presents the hypothyroid cases.

Table No. 3

Hypothyroidism

Type of lesion	No. of case	%
Congenital Absence	3	5.6
Congenital Goiter	1	1.8
Atrophy	22	40.7
Hashimoto	11	20.3
Malignancy	3	5.6
Granulomatous Thyroiditis & Amyloidosis	14	26.0
Total	**54**	**100.0**

Cretinism- In three autopsy cases there were a complete lack of thyroid gland, and in two other cases it was so rudimentary that seldom charactristic tissue could be recognized. On occasions apparently a normal gland may be present, but actually they are inactive and children with this type of disorder will develop goiter after a few years which it later becomes atrophic.

Myxedema - This kind of hypofunction would be found in different lesions of the thyroid:

A) Thyroid atrophy due to age or chronic debilitating diseases like tuberculosis or neoplasms (22 cases), in these thyroid gland becomes inactive, its follicles are either in different sizes or cystic forms. It must be pointed out that in all cases of senile atrophy hypothyroidism may not be present.

B) Hashimoto's disease: 11 patients with Hashimoto's disease had hypothyroidism. Histopathological studies reveals lymphocitic infiltration of stroma which account as a chronic thyroiditis, but inflammation has not anything to do with its occurance. Macroscopically thyroid gland becomes 3-4 times larger with hard consistancy and microscopically severe increase of lymphocytes with numerous plasma cells, and lymphatic follicules with germinal centers are observable. Sometimes lymphoid tissue is so extensive that original structure can hardly be determined. Corresponding with severity of the disease fibrosis of the organ will increase.

C) Thyroid carcinoma-Two cases of papillary carcinoma with gient cell and one case of follicular type accompanying hypofunction observed.

3- Third group consist of thyroid diseases with unapparent manifestations. This group was the most prevalent type we found in our materials. Among 1125 thyroid gland in 950 cases patients either have had not complains with regard to hormonal inbalances, or if so, was not inserted in hospital report, of course mild degree of symptoms insome patients has been recorded, but none of them has shown complete characteristic picture.

II- PARATHYROID

Parathyroid has a regulatory function on calcium and phosfhorous metabolism and also keeps their ionic quantity always in state of balance in blood circulation independent of pituitary influence, that is to say its activities is directly upon bones and renal tubules.

The histopathological picture of the parathyroid hormon derangements in most cases is often identifiable. Table 4 shows the major finding in this respect.

Table 4

24 casee of Parathyroid lesion

Type of Lesion	No. of case	%
Hyperplastic or Hyperfunction	13	54
Malignancy	2	8
Adenoma	3	13
Lipomatous or atrophic	4	17
Tuberculosis	2	8
Total	**24**	**100**

Similar to thyroid gland dysfunction, the parathyroid lesions are divided into three groups:

1- Hypoparathyroidism 7 cases.

2- Hyperparathyroidism 15 cases.

3- Undetermined 2 cases.

1- Hypoparathyroidism - On different accounts parathyroid gland essentially may set out the hypoparathyroidism. In these occasions there are a marked increase in neuromuscular excitability and producing the clinical manifestetion of chronic tetany.

Most of the times chronic hypoparathyroidism may be in association of trophic disturbances in the ectodermic tissues, so we may often see cataract or changes in the hair, nail or skin. Osseous tissue may have a greater density than normal and different foci of calcification in the brain may be noticed. Table 5 shows the major finding in 7 cases of chronic tetany.

Table No. 5

Hypoparathyroidism

Type of Lesion	No. of case	%
Atrophic or Lipomatous	4	57
Tuberculosis	2	29
Invasion of malignancy	1	14
Total	**7**	**100**

2_ Hyperparathyroidism - Incremental secretion of parathyroid hormon may be in association with benign or malignant tumors, benign idiopathic hypertrophy, or its partial or diffue hyperplasia. The primary hyperpa_rathyroidism data noticed in our study will be found in table 6.

Table No. 6

Hyperparathyroidism

Type of Lesion	No. of case	%
Diffuse Hyperplasia	12	80
Malignancy	1	7
Adenoma	2	13
Total	**15**	**100**

3_ Parathyroid lesions without hormonal disturbances. One case of parathyroid adenoma, and two cases of its relative hyperplasia were noticed at autopsy but no clinically observable sign has been mentioned.

III _ ADRENAL

Beside the 67 cases of metastatic lesion in adrenal 170 cases of adrenal lesion were also encountered (Surgicals 35, Necropsy 135).

In general we have divided these lesion in two categories:

1_ Cortical lesions 141 cases
2_ Medullary » 29 »
(See table 7 & 8)

Table No. 7

141 cases of Adrenal gl. (cortical) Lesion

Type of Lesion	No. of case	%
Carcinoma	15	10.5
Adenoma	13	9.0
Nodular Hyperplasia	15	10.5
Atrophy	9	7.0
Amyloidosis & TB	42	30.0
Necrosis, Hemorrhage & Thrombosis	34	24.0
Inflammation	13	9.0
Total	**141**	**100.0**

Table No. 8

29 cases of Adrenal gl. (Medulary) Lesion

Type of Lesion	No. of case	%
Neuroblastoma	15	52.0
Pheochromocytoma	9	31.0
Diffuse Hyperplasia	3	10.4
Hemorrhage	2	6.6
Total	**29**	**100.0**

1_ Cortical lesions were subdivided into three groups according to their clinical symptomatology; those with signs of insufficiency (64 cases); those with hyperactivity (8 cases); and finally those which do not show any practical signs (71 cases).

A_ Chronic adrenal cortical deficiency Addison's disease is fo those which must be mention first. It should be emphasized that complete destruction of adrenal cortex is incompatible with life and in spite of Addison's point of view, Addison's disease might be considered a partial lesion of the cortex. We had two cases of Addison's disesse, which clinical signs have confirmed the diagnosis. Anatomical finding consisted of cortical atrophy and degeneration, and 7 other cases atrophy of cortex was noticable that in one case atrophy was bilateral and in 13 cases infection and degenerantion were seen. Except foregoing cases some of the metastatic cancer, amyloidosis, tuberculosis, or other infection of the adrenal which cause symptome which mimic the primeary original illness, can be included in this category. (see table 9).

B_ Hypercortisolism - This group of diseases cause Cushing's Syndrome, adrenal virilismm, aldosteronism, feminizing syndrome.

Table No. 9

Hypocortisolism

Type of Lesion	No. of case	%
Amyloidosis and TB	42	65.6
Atrophy	9	14.0
Tubular Degeneration	13	20.4
Total	**64**	**100.0**

Table No. 10

Hypercortisolism

Type of Lesion	No. of case	%
Cushing's Syndrome	4	50.0
Adrenal Virilism	3	37.5
Hyperaldosteronism	1	12.5
Total	**8**	**100.0**

Cushing's Syndrome- We had 4 cases of this syndrome in our autopsies, more than 80 per cent of cases the lesion is due to hyperfunction of adrenal cortex.

Sometimes gland become hyperplastic, large, fragile and adenumatous, but there are times that their size is just a little larger or may be in its normal dimension. Although the lesion is known to be as a result of adrenal cortical hyperfunction, but primary lsion more or less is related to hypersecretion of corticotrophin hormon by pituitary gland.

Adrenal Virilism-In a case of bilateral hyperplasia of adrenal cortex and two cases of neoplasm adrenal virilism have been encounted.

C- Adrenal lesion without symptome of hormonal imbalance-About 10 cases of adrenal cortical cancer, plus many of its solitary or multiple adenoma recognized in autopsy specimens which did not show any signs of hypo-or hyperfunction of the gland. It is quite possible that these patients have had discomforts either neglected or not inserted in the case histories.

2- Adrenal Medulla-Medullary portion of adrenals has a ectodermic origin and is similar to sympathetic tissue, and chromaffin type cells, they are to secrete epinephrine and non-epinephrine. In some mild lesion of the medulla patient may not show signs of practical importance, inversely, in hyperplastic or neoplastic lesion of this zone practical symptome are observed. In our finding we noticed 9 casese of pheochromocytoma, 5 patients of this group had arterial hypertensive signs, whereas cases of neuroblastoma, sympaticogonioma, and ganglioneuroma listed in table 8 did not show any practical signs.

IV-PANCREAS

Endocrine portion of the pancreas or island of langerhans has alpha, beta and unifferentiated cells. Insulin present in the beta cesls and alpha cells produce glucagon. Pancreatic lesions would appear in the process of either generalized disease of pancreas of special lesion of island of langerhans (see table 11).

Table No. 11

156 cases of pancreatic Lesion

Type of Lesion	No. fo case	%
Malignancy	80	51.2
Pancreatitis (Chronic)	20	12.9
Pancreatitis (Acute)	16	10.3
Mucovisciscidosis	15	9.7
Amyloidosis & T.B.	4	2.5
Cong. Malformation	8	5.0
diabetes melitus	9	6.0
Adenoma of islet's calls	2	1.2
Fibrosis or Hyalinization	2	1.2
Total	**156**	**100.0**

The most improtant hormonal disturbances of this organ is diabetes melitus. We had 9 cases of this illness in our autopsies, and in 4 more cases we found adenoma of islet's cells and fibrosis or Hyalinization of island without clinical mentioning of diabetes.

Anatomical changes were not the same in all of diabetic patients. Macroscopically pancreas may be normal in about 20% of cases there is no anatomic pancreatic change demonstrable by usual histologic methods, but in others, islands of langerhans may show a great variety of changes; reduction in numbers, atrophy or hypertrophy of islands. But with the aid of special staining one finds outthat the basic lesion is the abcense of granuls in the beta cells, and most of these cells replaced by hypertrophic alpha cells, if this is the picture the islands would show normal appearance. Hyalinization of the islands is considered important, but this

factor has been faced in many non diabetic patients. Spite of old opinion cancerning presence of hydropic degenerantion, it is understood that this finding may or may not be present.

Diabetic renal lesion, vacuolization of liver cellr, diabetic retinopathy and lsion like artheriosclerosis, gangrene, apoplexy, high blood reprssure have been encounted in many cases.

V-PITUITARY

Tissue changes of pituitary gland not always in accordance with hormonal disturbances. Only with the aid of special technic in tissue preparing one can find the morphologic changes evident in hypophysal hormonal disorder. but some sort of sydrome or disease has characteristic morphologic lesion in pituitary gland; e. i: acromegaly.

23 cases of pituitary lesion are tabulated in table 12 & 13.

Table No. 12

23 cases of Pituitary Lesion

Type of Lesion	No. of case	%
Hyperplasia or : Chromophobe 4 Adenoma : Acidophile 4	8	34.7
Craniopharyngioma	3	13.0
Cromophobe Ca.	1	4.4
Atrophy of anterior Lobe	1	4.4
Crook's Hyalin Change	2	8.7
Tuberculosis	2	8.7
Lymphoma and Reticulosis	2	8.7
Inflamation and Infarcts.	4	17.4
Total	**23**	**100.0**

Table No. 13

23 cases of Pituitary Lesion

Total	No. of case	%
Hyperpituitarism	9	39.0
Hypopituitarism	7	30.5
Undetermined	7	30.5
Total	**23**	**100.0**

This is due to hyperplasia or adenoma, especially of acidophillic cell adenoma of pituitary gland. Acidophillic cells are contributed in growth hormon secretion which affects all the cells in the body. Effect of this hormon is variable according to age. In children a gigantism and in adults produces acromegaly.

There is not direct proportion between the size of the tumor and its activity, sometimes the tumor is large and inactive while in other cases become inversly proportional. We found 4 cases of acromegali in our study that accompanied adenoma of pituitary (see table 14 & 15).

Table No. 14

Hyperpituitarism

Type	No. of case	%
Adenoma	4	45
Crook's Hyalin Change	2	22
Diffuse Hyperplasia	1	11
Craniopharyngioma	1	11
Malignancy	1	11
Total	**9**	**100**

Table No. 15

Hyperpituitarism

Type of Dis. or Synd.	No. of case	%
Acromegaly	4	45
Gigantism	3	33
Cushing's Synd.	2	22
Total	**9**	100

Hyperactivity of pituitary gland may propagate activities of other endocrine gland, and then diminishes their activities. That is why we might see variety of clinical symptoms.

We had one instance of pituitary hyperplasia and one case malignent

adenoma which later manifested as cushing's syndrome with Crook's hyalin change.

2- Hypopituitarism.

Any lesion which destroys pituitary gland is able to bring about its hypofunction. The most important of these lesions are: post-Partum necrosis or Shihan's syndrome, chromophobe cell adenoma, craniopharyngioma, tuberculosis, metastatic neoplasm and finally various infectious diseases. (see table 16 & 17)

Teble No. 16

Hypopituitarism

Type of Lesion	No. of case	%
Inflammation or Necrosis	2	28.5
Chromophobe Adenoma	1	14.3
Ctrophy of Ant. Lobe	1	14.3
T.B.C.	1	14.3
Craniopharyngioma	1	14.3
Malignancy	1	14.3
Total	**7**	100.0

Table No. 17

Hypopituttarism

Type of Dis. or Synd.	No. of case	%
Simmon's Dis.	2	28.5
Diabetes Insipidus	2	28.5
Pituitary Dwarfism	2	28.5
Frohlich's Synd.	1	14.5
Total	**7**	100.0

3- Lesion without actual signs of pituitary hormonal disturbance. In this instances no actual symptoms in patients has been reported. The following lesions have been found without hormonal disturbance mentioning:

Pituitary adenoma	3 cases
Craniopharyngioma	1 «
Inflammation and TB	3 «

VI-TESTS & OVARIES

Testicular and ovarian lesion were one of the most prevalant type of all, in view that its comprehensive discussion is beyond the scope of this report, only anatomic finding in different illness has been put together in table 18 & 19.

Table No. 18

268 cases of Testicular Lesion

Type	No. of case	%
Seminoma	137	51 0
Teratoma	69	25.7
Sarcoma	6	2.2
Carcinoma	32	12.0
Ectopic	12	4.5
Orchitis	7	2.6
Atrophy or Immaturity	4	1.6
Absence	1	0.4
Total	**268**	100.0

Table No. 19

790 cases of Ovarian Lesion

Structural	Cellar	No.	Total No.
Gonadal Stromal Tumor	Granulosa-Theca	13	
	Arrhenoblastoma	6	
	Gynendroblastoma	1	20
Germ Cell Tumor	Dysgerminoma	31	
	Choriocarcinoma	1	
	Teratoma	129	176
	Teratocarcinoma	15	
Cystoma Benign & Malignant	Serous	163	
	Mucinous	255	
	Endometrial	6	430
	Cyst-Adenofibroma	6	
Miscelaneous			164
Total			790

In general hormonal imbalance of this group of patients has not been mentioned in many cases.

With this regard we have not been informed sufficiently about hormonal disturbances of testicular and ovarian disorder. Of course in cases of precocious puberty, or interstitial cell tumors of tests or Granulosa-Theca cell of ovarian, Arrhenoblasotma, we had some information about their hormonal disturbances.

Finally it must be pointed out that most of the hormonal imbalances mentioned here are based upon clinical reports, and generally many of these lack precise endocrinologic laboratory investigations, therefore it would be difficult indeed for the author to give an accurate data on the subject of endocrine disorder.

Summary

This paper is a statistical and analytical review of endocrine glands disorders, seen in the Department of Pathology, Tehran University Medical School, and is based on approximately 40,000 surgical specimens and 2,500 autopsy cases.

Of 42,500 combined routine surgical and autopsy cases reviewed, we had 2,556 cases of endocrine disorders of which there: thyroid 1,125 cases, ovary 970, testis 268, adrenal gland 170, pancreas 156, parathyroid 24 and pituitary gland 23.

Principal lesions of each gland have been discussed, and in some cases attempt has been made to analyse and compare the clinical symptoms with the pathological findings.

Resumè

Cet article est une révue analytique et estatistique des lesions des glands endocrines que nous avons vue au Departement d'Anatomo-pathologie de la Faculté de Médicine de l'Université de Téhèran. Cette information est basé sur environ 41,000 pièces chirurgicales et 2,500 cas d'autopsies.

Sur les 42,500 pièces chirurgicales et les cas d'autopsies ensemble que ous avons etudié ils y avaient 2,556 cas des lesions endocriniennes la glande thyroide 1,125, l'ovaire 970, le testicule 268, la glande adrenale 170, le pancreas 156, la glande parathyroide 24 et la glande pituitaire 23.

Les lesions principales de chaque glande sont discutée et sur quelques cas nous avons tente d'analyser et comparer les symptoms cliniques avec les observations pathologiques.

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