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HYPOPHYSECTOMY

A very accurate and complete picture of the status of hypophysectomy by SURGICAL and RADIOLOGICAL METHODS, and the results to be expected from this form of treatment. The discussion brings up and reviews the best information available and the many practical questions which have arisen in the course of treating patients by these techniques.

The participants have been extremely candid in their comments.

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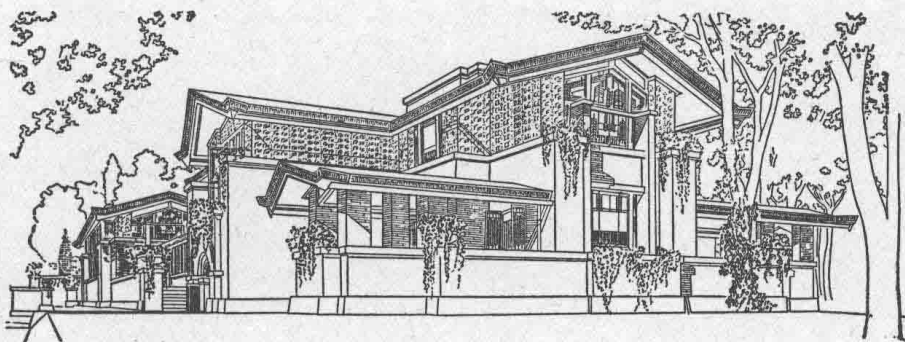


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HYPOPHYSECTOMY

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AMERICAN LECTURE SERIES®

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AMERICAN LECTURES ON TUMORS

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FOREWORD

INTEREST in the effects of the endocrine environment on the growth of human neoplasms has grown steadily during the past fifteen years. The possibility that the pituitary gland might play an important role in the growth of certain neoplasms has been speculated upon for some time. Although sporadic attempts had been made to remove the hypophysis in man, it was not until cortisone became available and was found to be effective replacement therapy in adrenal insufficiency that hypophysectomy seemed to be a reasonable procedure to undertake. Attempts to perform hypophysectomy in man began independently in several clinics almost simultaneously.

Dr. C. P. Rhoads, Director of the Sloan-Kettering Institute, Memorial Center, suggested that a conference of workers interested in this field might be helpful in evaluating the potential of hypophysectomy. The meetings were held on March 19 and 20, 1956 at the Sloan-Kettering Institute in New York. The conference was made possible by generous support from the Alfred P. Sloan Foundation. All of the contributors to the symposium felt that the sharing of their experiences had been very useful and that publication of the proceedings should prove helpful to others who might become interested in the effects of removal of the pituitary gland.

Sincere appreciation is due Mrs. Helena Curtis for assistance in editing the discussions.

O. H. PEARSON, M.D.

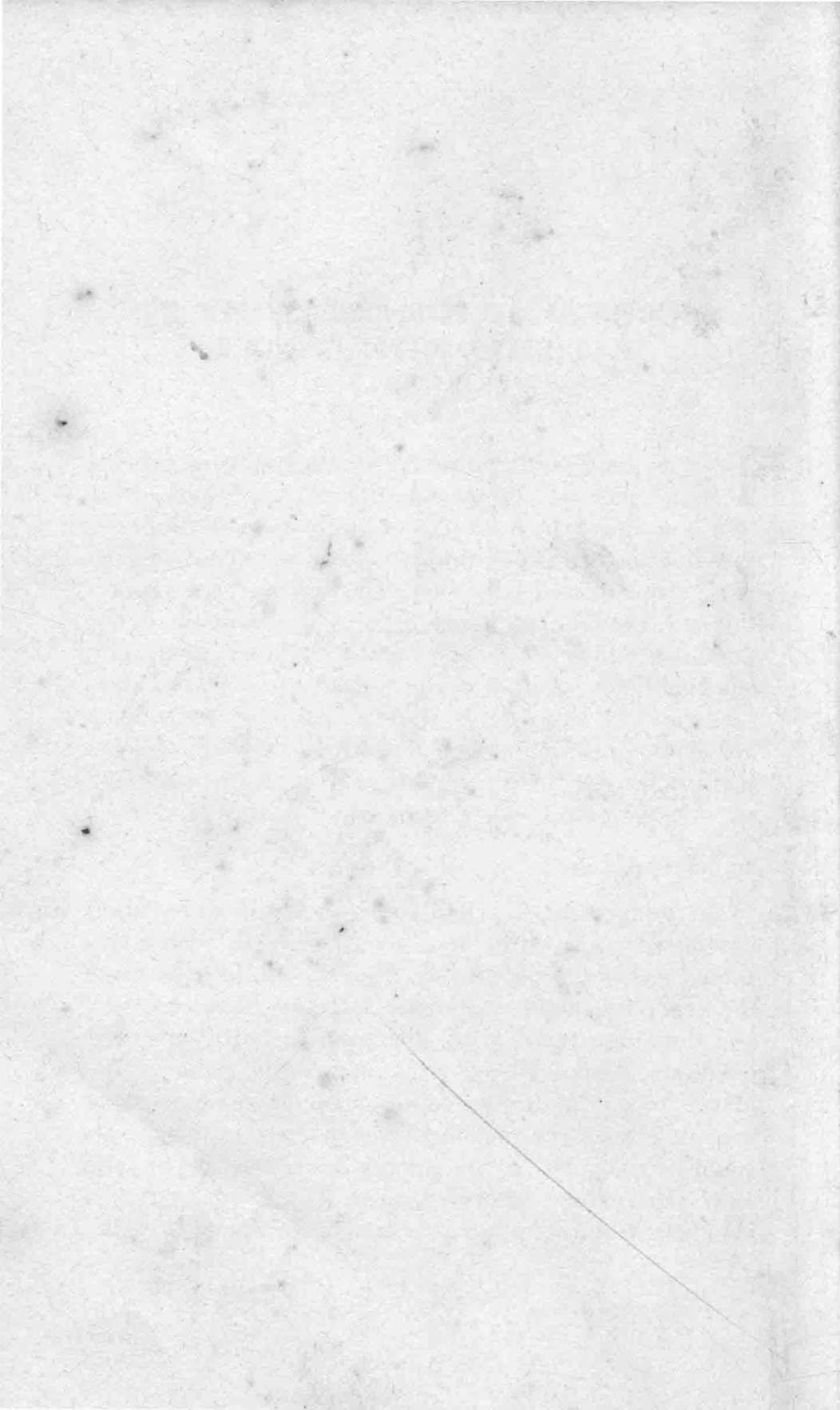
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HYPOPHYSECTOMY



I

SURGICAL HYPOPHYSECTOMY IN PATIENTS WITH CANCER

DR. ROLF LUFT

IN a recent report,¹ we described our results in patients with metastatic breast cancer hypophysectomized before June 1954. The main part of this report will deal with the continued course of this first group of patients. In the small series treated since that date, however, the proportion of favorable responses has been, on the whole, of the same magnitude. Experience with this latter group also has confirmed previous evidence that three types of patients are not improved by hypophysectomy: 1) patients above an approximate age limit of sixty years; 2) patients with metastases to the central nervous system; and 3) patients with liver enlargement due to metastases.

Summary of Cases

To recapitulate, our first series included thirty-seven unselected cases of breast cancer, nearly all with widespread metastases (see Tables 1 and 2). In four patients, the hypophysectomy was known to be far from complete, and three patients died of other causes shortly after the operation. Seven of the remaining thirty patients belonged to one of the previously mentioned unfavorable groups. Thus there remained twenty-three patients who could be evaluated, of whom fourteen were alive in June 1954. Of the nine who died, three had shown considerable improvement for some time. Up to March 1, 1956,

TABLE

CLINICAL DATA IN THIRTY CASES OF METASTATIC CAN

Case no. Sex	Born	Amenorrhea since	Breast cancer noted	Breast	Breast oper., yr.	Axillary node resect.	Other treatment	Type of cancer
1 F	1902	1948	1945	Left	1945	+	Irrad.	Scirrhus
2 F	1891	1940	1946	Left	1947	-	Irrad.	Poor. diff., solid
3 F	1906	1951	1948, pains. 1950, lymph node. 1951, breast	Left	-	-	Irrad.	Poor. diff., solid
4 F	1909	Regular menstr.	1950	Right	1950	+	Irrad.	Poor. diff., solid
5 F	1909	Regular menstr.	4/1952	Left	4/1952	+	Irrad.	Solid
6 F	1903	1951	1950	Left	1950	+	Irrad.	Poor. diff.
7 F	1904	1951.	3/1952	Right	-	-	Irrad.	Unknown
8 F	1916	Regular menstr.	1951	Left	1951	+	Irrad.	Poor. diff., & adenoca.
9 F	1888	1943	1948	Left	1948	+	Irrad. tele-radium	Solid adenomatous
10 F	1877	1924	1950	Right	1950	+	Irrad.	Simplex
11 F	1913	Regular menstr.	1950	Left	1951	+	Irrad.	Poor. diff., solid
12 F	1894	1944	1950	Left	1950	+	Irrad.	Solid adenomatous
13 M	1888		1945	Left	1945	-	Irrad.	Unknown
14 F	1914	1952	1951	Left	1951	+	Irrad.	Adenoca.
15 F	1902	1952	1950	Right	1953	+	Irrad. TP	Scirrhus
16 F	1896	1945	1951	Left	-	-	See metas.	Poor. diff.
17 F	1899	1948	1948	Left	1950	+	Irrad.	Poor. diff.
18 F	1903	1948	1947	Left	1948	+	Irrad.	Solid adenomatous
19 F	1905	Regular menstr.	1951	Left	1951	+	Irrad.	Solid tubular
20 F	1909	1949	1949	Left	1949	+	Irrad. castration	Solid adenomatous
21 F	1905	Irreg. menstr.	1949	Left	1951	+	Irrad.	Scirrhus
22 F	1898	1948	1951	Right	1951	+	Irrad.	Poor. diff. (scirrhus)
23 F	1910	Regular menstr.	1952	Right	1952	+	Irrad.	Poor. diff., solid
24 F	1885	1938	1950 1951	Left Right	1950 1951	+	Irrad.	Poor. diff., solid
25 F	1901	Regular menstr.	1951	Right	1951	+	Irrad.	Solid scirrhus
26 M	1894		1948	Left	1948	+	Irrad.	Adenoca. Poor. diff.
27 F	1908	Regular menstr.	1948	Left	1949	+	Irrad.	Poor. diff.
28 F	1910	Regular menstr.	1947	Left	1947	+	Irrad.	Solid tubular
29 F	1921	2/1953	1951	Right	1951	+	Irrad.	Poor. diff., (adenoca.)
30 F	1906	Irreg. menstr.	1950	Right	1950	+	Irrad.	Poor. diff.

CER OF THE BREAST SUBMITTED TO HYPOPHYSECTOMY

Case no. Sex	Discovered	Metastases		Treatment	Condition of patient at hypophysectomy				
		Location	Date	Type	Gen. cond.	Wt. loss	Pain	Fever	Dyspnea
1 F	1948	Skin, local.	1948	Irrad. Castration.	Fair	+	-	-	+
2 F	1949	Right breast	1949	TP P ^u	Fair	-	+	-	-
3 F	1950	Left axilla.	1950	Irrad.	Fair	-	+	-	-
4 F	1951	Skin, local.	1951-52	Irrad. Estrogens.	Fair	-	+	-	-
5 F	1951	Bone	1951	Irrad.	Fair	-	+	-	-
6 F	1950	Region. nodes.	1950-52	Irrad.	Poor	+	+++	-	++
7 F	1951	Skin, local	1948-52	TP	Poor	+	+++	-	+
8 F	1950	Pain, hip.	1952	Irrad.	Poor	+	+++	-	+
9 F	1951	Pain, leg.	1952	TP	Poor	+	+++	-	+
10 F	1952	Brain	1952	Remov., brain metas.	Good	-	-	-	-
11 F	1952	Region. nodes.	1952	Remov., brain metas.	Good	-	-	-	-
12 F	1952	Cerebellum	1952	Remov., brain metas.	Good	-	-	-	-
13 F	1950	Region. nodes.	1952	Remov., brain metas.	Good	-	-	-	-
14 F	1952	Bone	1952	Remov., brain metas.	Good	-	-	-	-
15 F	1952	Skin, local.	1952	Remov., brain metas.	Good	-	-	-	-
16 F	1952	Left pleura	1952	Remov., brain metas.	Good	-	-	-	-
17 F	1951	Region. nodes.	1952	Irrad.	Fair	+	+	+	+
18 F	1951	Contralat. nodes.	1952	Irrad.	Fair	+	+	+	+
19 F	1952	Bone	1952	Irrad.	Fair	+	+	+	+
20 F	1952	Skin, local.	1952	Irrad.	Fair	+	+	+	+
21 F	1952	Left pleura	1952	Irrad.	Fair	+	+	+	+
22 F	1951	Region. nodes.	1951-52	TP	Fair	-	++	-	-
23 F	1951	Bone	1951-52	TP	Fair	+	++	-	-
24 F	1951	Region. nodes.	1952	Irrad.	Fair	+	++	-	-
25 F	1951	Bone	1952	TP	Fair	+	++	-	-
26 F	1951	Region. nodes.	1952-53	Irrad.	Good	+	+	-	-
27 F	1952	Right breast.	1952-53	TP	Good	+	+	-	-
28 F	1952	Right axilla.	1952	Remov. rt. breast + axilla	Good	+	+	-	-
29 F	1952-53	Skin, local	1952	Remov. rt. breast + axilla	Good	+	+	-	-
30 F	1950	Region. nodes.	1952	Right axilla.	Poor	+	++	-	-
31 F	1952	Contralat. nodes.	1952	Irrad.	Poor	+	++	-	-
32 F	1952	Bone	1953	TP	Poor	+	++	-	-
33 F	1947	Region. nodes.	1947	Remov. lt. axilla.	Good	+	-	-	+
34 M	1951	Lungs	1951-53	Paraoxiphenon.	Good	+	-	-	+
35 F	1952	Left supraclav.	1952	Estrogens.	Good	+	-	-	+
36 F	1950	Brain	1951	Remov. brain metas.	Good	-	++	-	-
37 F	1953	Bone	1951	Irrad.	Good	-	++	-	-
38 F	1953	Bone	1952	TP	Good	-	++	-	-
39 F	1953	Bone	1953	Remov. metas. skull	Good	-	++	-	-
40 F	1950	Region. nodes.	—	—	Fair	+	++	+	+
41 F	1952	Eyes	—	—	Fair	+	++	+	+
42 F	1951	Region. nodes.	1951-53	Irrad.	Poor	+	+	+	-
43 F	1951	Skin, local	—	—	Good	-	+	-	-
44 F	1950	Region. nodes.	—	—	Good	-	+	-	-
45 F	1953	Skin, local.	—	—	Good	-	+	-	-
46 F	1953	Bone	—	—	Good	-	+	-	-
47 F	1952	Bone	1952	Irrad.	Fair	+	+	-	-
48 F	1953	Bone	1953	TP	Fair	+	+	-	-
49 F	1951	Region. nodes.	1953	Irrad.	Fair	+	+	-	-
50 F	1952	Bone	1953	Irrad.	Fair	+	+	-	-
51 F	1953	Brain	1953	Irrad.	Fair	+	+	-	-
52 F	1949	Region. nodes.	1949-52	Teleradium.	Fair	-	+	-	-
53 F	1951	Left supraclav.	1953	TP	Fair	-	+	-	-
54 F	1952	Skin, local.	1953	Irrad.	Fair	-	+	-	-
55 F	1953	Bone	1953	TP	Fair	-	+	-	-
56 F	1951	Bone	—	—	Fair	+	+	-	+
57 F	1953	Lungs	—	—	Fair	+	+	-	+
58 F	1951	Region. nodes.	1953	TP	Poor	+	+++	+	-
59 F	1952	Bone	1953	TP	Poor	+	+++	+	-
60 F	1952	Region. nodes.	1953	Castration.	Good	-	+	-	-
61 F	1953	Skin, local	1953	Irrad.	Good	-	+	-	-
62 F	1953	TP	1953	TP	Good	-	+	-	-
63 F	1950	Region. nodes.	1953	Irrad.	Fair	-	-	-	-
64 F	1951	Region. nodes.	1953	Irrad.	Fair	-	-	-	-
65 F	1953	Right supraclav.	1953	Irrad.	Fair	-	++	-	+
66 F	1953	Lungs	1953	Irrad.	Fair	-	++	-	+
67 M	1951	Left supraclav.	1951	Irrad.	Fair	+	-	-	+
68 F	1952	Lungs	1951	Irrad.	Fair	+	-	-	+
69 F	1949	Region. nodes.	—	—	Fair	+	+++	-	-
70 F	1952	Bone	—	—	Fair	+	+++	-	-
71 F	1953	Region. nodes.	—	—	Fair	+	+++	-	-
72 F	1953	Bone	—	—	Fair	+	+++	-	-
73 F	1951	Region. nodes.	1953	Irrad.	Good	-	+	-	-
74 F	1952	Bone	1953	Irrad.	Good	-	+	-	-
75 F	1954	Lungs	1953	Irrad.	Good	-	+	-	-
76 F	1950	Region. nodes.	—	—	Poor	+	+++	+	-
77 F	1952	Bone	—	—	Poor	+	+++	+	-

the following could be stated about the fourteen patients (the numbering of the cases refers to Tables 1 and 2):

Case 1: The patient was asymptomatic for nineteen months following hypophysectomy; then progression of soft tissue metastases was noted. She was still alive fifty months post-hypophysectomy.

Case 5: Before the hypophysectomy, the only metastasis found was a solitary one in the cerebellum which was extirpated. The patient died twenty-three months post-operatively after the extirpation of a local recurrence in

TABLE 2

EXTENT OF METASTASES AND POSTOPERATIVE OBSERVATION TIME IN THIRTY CASES OF METASTATIC CANCER OF THE BREAST SUBMITTED TO HYPOPHYSECTOMY

Case no.	Age at operation, yr.	Months observation, post-operative	Metastases*						Status
			Local	Skeleton	Lungs, pleurae	Eyes	Brain	Liver	
1	50	28	++++		+				Living
5	43	20					+		Living
11	40	14	++	++					Living
13	65	14	+		++++				Living
15	51	13		+++	+++	++			Living
16	57	13	+++						Living
17	54	13	+	+					Living
21	48	12	+	++					Living
25	52	7	+		+++				Living
26	57	7	+	++	++				Living
27	45	7	+	++++					Living
28	43	6		++					Living
29	32	3		+++	++				Living
30	46	19	+	+++					Living
2	61	17	++	++					Dead
3	46	1	++++	++	++			+	Dead
4	43	2		+++	+++		+	+	Dead
6	50	3		++	++			+	Dead
7	48	10	+++				+		Dead
8	46	9	++++	+++	+				Dead
9	65	5	+	++	?+				Dead
10	76	10	+	++++					Dead
12	59	10	+	++++					Dead
14	39	4		+			+		Dead
18	50	9	+	++++					Dead
19	48	2		++	++		+		Dead
20	44	2	++++	+	+	+		?+	Dead
22	55	3		+++	+				Dead
23	43	3	++++		?+				Dead
24	68	3	++++	+	+				Dead

*The extent of the metastases locally and to the skeleton and lungs is denoted from + to +++++. Metastases to one eye is denoted +, to both eyes ++. Metastases to the brain are denoted + irrespective of their extent. In all cases the liver metastases denoted + were very extensive and made the liver palpable before the operation.

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