NOTE ON THE INCIDENCE OF INTRATHORACIC TUMOURS IN EDINBURGH ROYAL INFIRMARY[1]

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There has appeared a considerable amount of literature attesting to the increasing frequency of primary intrathoracic neoplasm arising from the respiratory tract—lung and bronchi. This has emanated from various centres, both in Europe and in America. It had been thought that a similar increase was noticeable in Edinburgh, and some years ago Dr J. Davidson, then pathologist in the Royal Infirmary, did some work on the incidence of the disease as shown by the records of the institution. This was not recorded at the time, and it seemed desirable to extend that work and to publish yearly and quinquennial tables on the lines of Bonser's work, with very brief deductions, in order to ascertain so far as possible the actual state of affairs here and to give figures for comparison with those of other places. It is necessary to define the meaning of the term "intrathoracic tumours". It has been chosen instead of "primary lung tumours" because in the earlier cases the "oat-celled" carcinomata were regarded as primary mediastinal gland sarcomata and have, therefore, had to be included, a point which recent microscopical examination of some of these earlier cases has shown to be justified. The records from 1904 to 1934 inclusive have been carefully searched, and only those cases have been included which were described as malignant and as arising from lung or mediastinal glands; cases of Hodgkin's disease, cancer of the oesophagus and thymic tumours were excluded.

The percentage of autopsies to deaths averages 48·6 (see Table I, column 4). For no known reason, there occurred a sudden rise to 68·5 per cent. in 1910; this was followed by a fall to 43·5, 37·5, 34·8, 41·1, and 30·6 per cent. in 1915, 1916, 1917, 1918 and 1919 respectively, which was approximately the war period. The fairly constant percentage of cases autopsied throughout the entire period under review is of significance, for it meets the criticism that autopsy figures are unreliable owing to a varying tendency to select only certain cases for examination (see Bonser, 1928–9).

It is evident that the percentage of intrathoracic tumours to malignant tumours in all sites, autopsies, admissions, and deaths, remained fairly constant throughout the period except in the last six years (1929–34), when in 1929 the percentages were almost doubled and in the subsequent years

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mained at a high level. In 1929 the percentage of intrathoracic tumours to malignant tumours in all sites was 12·4, to autopsies 2·4, to admissions 0·07 and to deaths 1·2, instead of 7·5, 1·1, 0·03 and 0·5 in 1928 respectively (see Table I, columns 8, 9, 10 and 11). This sudden rise is well borne out in

Table I

	1	2	3	4	5	6	7	8	9	10	11
								% intrathoracic tumours to			
Year	No. of admissions	No. of deaths	No. of autopsies	% of autopsies to deaths	No. of tumour cases	No. of intra-thoracic tumours	% of tumours to autop-sies	Tumours	Autop-sies	Ad-missions	Deaths
1904	10,403	858	435	51·9	49	4	11·3	8·2	0·8	0·03	0·4
1905	10,226	792	440	55·5	68	3	15·5	4·4	0·5	0·02	0·3
1906	10,430	820	380	46·3	44	3	11·6	6·8	0·7	0·02	0·3
1907	10,340	815	442	54·3	61	5	14·1	8·2	1·1	0·04	0·6
1908	10,975	823	467	56·7	75	8	16·1	10·7	1·7	0·07	0·9
1909	11,566	831	472	56·7	76	4	16·0	5·3	0·8	0·03	0·4
1910	11,523	775	531	68·5	87	10	16·2	11·5	1·9	0·08	1·2
1911	11,805	877	478	54·5	60	4	12·5	6·6	0·8	0·03	1·4
1912	11,895	838	448	53·4	62	2	13·9	3·2	0·4	0·01	0·2
1913	11,691	870	448	51·4	64	7	14·3	10·9	1·6	0·05	0·8
1914	11,988	890	399	44·8	64	8	16·0	12·5	2·0	0·06	0·8
1915	12,352	909	396	43·5	54	3	13·6	5·6	0·8	0·02	0·3
1916	11,553	836	314	37·5	54	5	17·2	9·2	1·6	0·04	0·5
1917	11,181	847	295	34·8	58	4	19·7	6·9	1·4	0·03	0·4
1918	11,646	795	325	41·1	53	7	16·3	13·2	2·2	0·06	0·8
1919	11,680	1020	313	30·6	49	3	15·6	6·1	1·0	0·02	0·2
1920	12,521	906	469	51·7	76	8	16·3	10·5	1·7	0·06	0·8
1921	12,814	885	394	44·5	69	5	17·5	7·7	1·3	0·03	0·5
1922	13,372	928	402	43·3	60	5	14·9	8·3	1·2	0·04	0·5
1923	14,231	931	454	45·5	74	6	16·3	8·1	1·3	0·04	0·6
1924	14,883	970	478	38·9	67	5	14·0	7·5	1·0	0·03	0·5
1925	14,908	1052	544	51·7	91	7	16·7	7·7	1·3	0·04	0·6
1926	16,138	1107	514	46·4	87	4	16·9	4·6	0·7	0·02	0·3
1927	17,843	1115	545	48·8	87	7	15·9	8·0	1·2	0·03	0·6
1928	18,779	1084	536	49·4	79	6	14·7	7·5	1·1	0·03	0·5
1929	19,001	1244	602	48·4	121	15	20·0	12·4	2·4	0·07	1·2
1930	19,626	1262	644	51·0	113	9	17·5	7·9	1·3	0·04	0·7
1931	19,184	1129	579	51·2	107	10	18·4	9·3	1·7	0·05	0·8
1932	19,145	1197	699	58·3	126	12	18·0	9·5	1·7	0·06	1·0
1933	19,271	1263	632	50·0	105	15	16·6	14·2	2·3	0·07	1·1
1934	18,943	1249	667	53·4	114	18	17·0	15·7	2·6	0·09	1·4

Table II

Years	% of autopsies to deaths	% of tumours to autopsies	% of intrathoracic tumours to total of			
			Tumours	Autopsies	Admissions	Deaths
1904–1908	52·5	13·7	7·6	0·9	0·03	0·5
1909–1913	56·9	14·5	7·5	1·1	0·04	0·6
1914–1918	40·3	16·5	9·4	1·6	0·04	0·5
1919–1923	43·1	16·5	8·1	1·3	0·03	0·5
1924–1928	47·0	15·6	7·0	1·0	0·03	0·5
1929–1933	51·8	18·1	10·6	1·9	0·06	0·9

Table II, where the last quinquennial period, 1929–33, showed percentages of 10·6, 1·9, 0·06 and 0·9 instead of the fairly constant figures in the previous periods.

It seems, therefore, that in the last few years from 1929 to 1934 there appeared a definite but abrupt rise in the percentage of intrathoracic neoplasms in Edinburgh Royal Infirmary, and undoubtedly this will be of significance if it continues and is sustained for several more years. The reason for this sudden but maintained rise is difficult to explain. It may be due to

a real increase in the incidence of the disease as claimed by the majority of authors on the subject, but undoubtedly, at least in Edinburgh Royal Infirmary, it is partly due to the more intensive study and the better diagnosis of the disease during and after life. To conclude, then, that there is a real increase in the incidence of intrathoracic neoplasms in Edinburgh Royal Infirmary would be premature; the condition requires further investigations for several more periods of years.

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