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PREVALENCE AND INCIDENCE OF CHRONIC LYMPHOEDEMA IN A WESTERN EUROPEAN COUNTRY

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The purpose of this study is to illustrate the frequency of chronic lymphoedema. This knowledge is important for planning a treatment programme, especially when health authorities and medical professions seem to ignore the problem.

The National Registry of Cancer gives exact informations on incidence and prevalence of cancer of the breast and carcinoma of the cervix (stage IB) (Tab. 1 & 2). These two diseases are major causes of chronic lympoedema. There is good knowledge of how often these disorders are operated and irradiated (85 and 50% respectively). Assuming that 15% of the treated patients develope lymphoedema, makes a prevalence and incidence of chronic secondary lymphodema of.62 and 4.9 respectively.

I have through sereval years kept files on patients with lymphoedema. According to The National Directory of Recidence 305 of these patients were alive at the 1. of August 1988 (prevalence date). The series is split up in different causes as shown in Tab. 1. Assuming that my files are representative of the real population in the country, the percentage of 43.3 of all chronic lymphoedema should arrouse from cancer of the breast and cancer of the cervix. In the table the contribution of the other causes are calculated according to this percentage (numbers in parenthesis). Thus the total calculated number of chronic lymphoedema in Norway exceeds 6000 persons, of which 85 % are women.

Prevalence of a chronic (lifelong) disease can be converted to incidence when survival time is known, according to the equation:

$$(1) \qquad \text{Incidence} = \frac{\text{Prevalence}}{\text{Survival time}}$$

The survival time varies among the different subgroups. The survival time for "other malignant cause" has been set to 20 years (Cancer Registry), whereas the survival time for the "non-malingnant causes" equals normal life expectancy for the actual age distribution. (Tab. 2).

Several assumptions are made in these calculations. The figures derived from the statistics of Cancer Registry are fairly correct. The percentages of operated patients in both groups are in accordance with the practice the last 15 years.
The frequency of lymphoedema formation is very uncertain and varies in the literature between 9 and 72. In different series it averages 40% (1-7). The percentage in this study (15%) is consented by surgeons, who seldom follow the patient for a sufficient long period to detect the latent forms of lymfoedema. This is particularly frequent in mastectomy. In my series, 17% had a latent period of more than 3 years. However, the operating technique is improving, causing less oedemas now than 10-15 years ago. All together, the percentage of 15 is possibly too low, underestimating the values of prevalence and incidence.
There is a great question whether my files give a reliable picture of the distribution. The percentage in my series of cancer of the breast and cancer of the cervix do not correspond very close to the known prevalence and incidence from the Cancer Registry. In addition, there is always a risk of getting too many secondary lymphoedemas in a series, because they are more acute. The patients with primary lymphoedema are more adapted to the disorder and less compliant. The greater part of my patients are not referred from cancer units, they come from plastic surgeons, internists and private practitioners. This fact is in favour of a balanced distribution between primary and secondary lymphoedema in the series.

The obtained figures of prevalence and incidence are surely incorrect with a tendency to underestimate the true values. Accuracy is not the main point, but rather to give an impression of the magnitude of the problem. A comparision with other known chronic diseases emerges from Tab. 3. Chronic lymphoedema is close to multipel scleroses, and proves a larger frequency than was expected from health authority and medical professions.

TABLE 1

PREVALENCE OF CHRONIC LYMPOEDEMA

	IN NORWAY	PR. 100 000	% IN SERIES
PREVALENCE OF CA. MAMMAE 20 000, 85% OPERATED OF WHOM 15% DEVELOPE LYMPHOEDEMA	2550	58	31.8
PREV. OF CA. CERV. UTERI (IB) 2500, 50% OPER. OF WHOM 15% DEVELOPE LYMPHOEDEMA	188	4	11.5
	2738	62	43.3
SEC. L.OE. MALIGN. CAUSE	(291)	(7)	4.6
SEC. L.OE. NON-MALIGN. CAUSE	(436)	(10)	6.9
PRIMARY LYMPHOEDEMA	(2858)	(65)	45.2
	(6323)	(144)	100.-

TABLE 2

INCIDENCE OF CHRONIC LYMPHOEDEMA

	IN NORWAY	PR. 100 000
INCIDENCE OF CA. MAMMAE: 1632 PR YEAR 85% OPER. OF WHOM 15% DEVELOPE L.OE.	208	4.7
INCIDENCE OF CA. CERV. UTERI (IB): 119 50% OPER. OF WHOM 15% DEVELOPE L.OE.	9	0.2
SEC. L.OE OF OTHER MALIGNANT CAUSE CALCULATED FROM PREVALENCE (291) AND EST. SURVIVAL TIME (20 YRS)	15	0.3
SEC. L.OE. OF NON-MALIGNANT CAUSE CALC. FROM PREVALENCE (436) AND EST. SURVIVAL TIME (40 YRS)	11	0.2
PRIMARY LYMPHOEDEMA. CALCULATED FROM PREVALENCE (2858) AND EST. SURVIVAL TIME (40 YRS)	71	1.6
	314	7.0

TABLE 1 & 2: CALCULATION FROM CANCER REGISTRY. NORWAY 1986-88 (4.4 MILL). FIGURES IN PARENTHESIS ARE CALCULATED FROM THE FREQUENCY IN A SERIES OF 305 PATIENTS WITH LYMPHOEDEMA.

TABLE 3

INCIDENCE AND PREVALENCE OF SOME CHRONIC DISEASES IN NORWAY

	PR 100 000 INCID.	PREV.
CHR. LYMPHOEDEMA	7	144
CONG. HEART DIS.	12	
MULTIPEL SCLEROSIS	7	136
STROKE	170	450
DIABETES (TYPE I)		450
HIP DISORDER		280

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