FROM CANCERREGISTERET, INSTITUTE FOR CANCER EPIDEMIOLOGY UNDER THE DANISH CANCER SOCIETY (DIRECTOR: J. CLEMMESEN), DK-2100 COPENHAGEN, DENMARK.

SURVIVAL RATES FOR PRE- AND POSTMENOPAUSAL DANISH WOMEN WITH MAMMARY CARCINOMA

JOHANNES CLEMMESEN

Mammary carcinoma is, generally speaking, more frequent among single women than among women ever married. However, various reports show a slight, although not statistically significant preponderance for married women in younger age groups, while women after the menopause have markedly higher rates. This has been found to apply to morbidity data for Denmark (CLEMMESEN 1965, 1969, 1974) and South Wales (LOWE & MACMAHON 1970) and to mortality data from Amsterdam (DEELMAN 1920), Australia (DORN 1943), New York City (DUFFIELD & JACOBSON 1945), and England (LOGAN 1953).

With this background, it is understandable that the age curve for breast malignancy usually has an irregularity, often in the shape of a hook, about the age of the menopause (CLEMMESEN 1948), since the morbidity curves for single women and for women ever married must cross about this age, subject to modifications caused by variations in age at first pregnancy, number of childbirths, etc. It has been suggested that the hook might indicate that breast malignancy comprises two different diseases, or more simply it might be said that the body changes its response at the menopause.

Staging. Morbidity rates for mammary carcinoma, like those for all other sites of malignancy, have been available in Denmark since 1943, based upon reports from hospitals supplemented with information from death certificates (CLEMMESEN 1965 to 1974).

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Table 1

Mammary carcinoma in Denmark 1960 to 1966. Groups insufficient for analysis

	Stage III		Stage unstated		All stages (radiation only)	
	≤54 years	≥55 years	Adm.	Non-adm.	≤54 years	≥55 years
1960	20	33	94	1	16	45
1961	15	22	33	3	22	51
1962	18	28	25	17	15	43
1963	8	21	10	9	15	52
1964	19	24	17	6	29	65
1965	13	31	11	13	10	46
1966	10	22	7	12	28	67

Because of the difficulties in attaining full uniformity between clinical units in the detailed staging of cervical uterine carcinoma, attempts at an estimate of survival rates by central agencies should be taken with some caution. They may be expected to be most accurate when, as in Norway (PEDERSEN et coll. 1975), they are based on data from a few therapeutic units.

When the Danish Cancer Registry in 1967 published survival rates for uterine carcinoma (LOCKWOOD & STANCKE 1967) this was also based on reports from a small number of therapeutic units and case records were consulted whenever the clinical stage had not been reported to the registry. The present report is based on answers to direct questions of decisive significance to the choice of therapy, and there is no reason to doubt the accuracy of the information reported from hospitals with about 92 per cent histologically confirmed cases.

It is true that the chance of microscopic disclosure of lymph node metastases is better in cases treated surgically than in those irradiated, and the more so the more radical the surgery. In consequence, the group of cases in stage I treated by operation will contain fewer patients with microscopic metastases than the irradiated group, which may tend towards an apparently better prognosis for the cases operated upon.

On the other hand, this could hardly affect premenopausal women differently from postmenopausal patients.

Survival rates have been influenced considerably by a campaign for breast-self-examination conducted by the Danish Cancer Society from October 1951 through 1954. All women, in particular those over 30, were asked to examine their breasts for possible nodules and to have nodules removed for microscopy. This campaign of films, broadcasts, meetings, etc. has apparently had a lasting effect on Danish survival rates.

While seven-year survival rates improved markedly for women under 45 (from 39.0 per cent for patients of 1949 to 55.8 per cent for those from 1954) the rate for

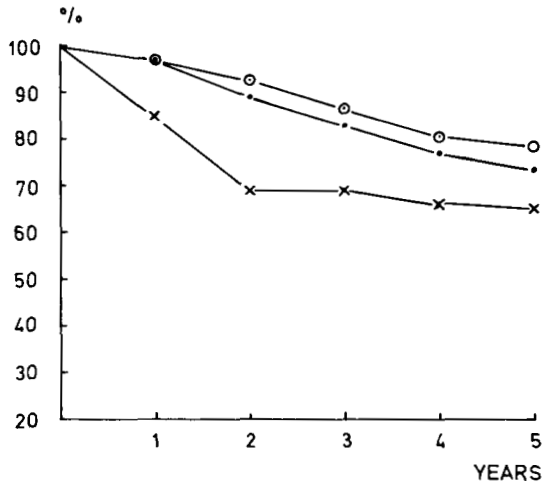

Fig. 1. Five-year survival in per cent for Danish women with mammary carcinoma, stage I, under 55 years of age, treated during 1962 to 1966 with surgery (○), irradiation (×), or combined treatment (●).

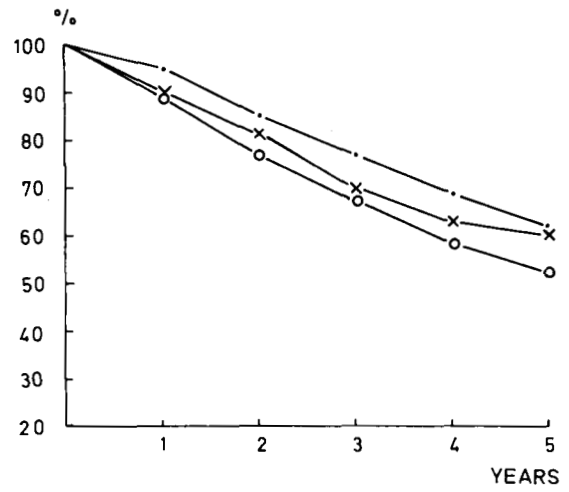

Fig. 2. Five-year survival in per cent for Danish women with mammary carcinoma, stage I, aged 55 years and over, treated during 1962 to 1966 with surgery (○), irradiation (×), or combined treatment (●).

those aged 45 to 54 years rose only from 44.3 to 53.3 per cent, and women aged 55 and over showed nearly stationary rates (32.0 and 34.7 per cent, respectively) (CLEMMESEN 1965).

Conversely, morbidity rates remained much the same for the younger women under 45 (11.2 per 100 000 in 1950 and 14.5 in 1970). For the 45 to 54 year group the increase was higher (from 94.7 per 100 000 in 1950 to 133.9 in 1970), while an evident increase in morbidity took place among postmenopausal women aged 55 and over (from 148.5 per 100 000 in 1950 to 194.4 in 1970).

Method. Since 1962, the Danish Cancer Registry has received regular reports from hospitals on the three main stages of breast carcinoma: Stage I, localized tumour; II, tumour with spread to regional lymph nodes; III, tumour with distant metastases.

It appears from Table 1 that the number of cases for which no stage was available

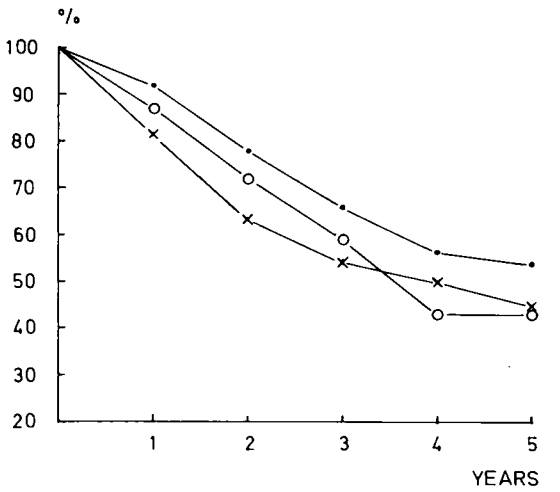

Fig. 3. Five-year survival in per cent for Danish women with mammary carcinoma, stage II, under 55 years of age, treated during 1962 to 1966 with surgery (○), irradiation (×), or combined treatment (●).

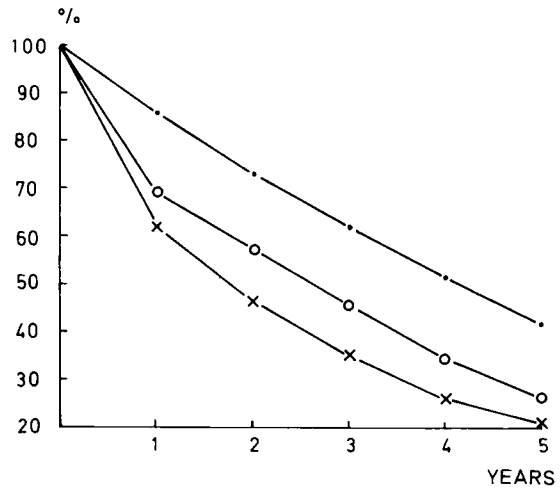

Fig. 4. Five-year survival in per cent for Danish women with mammary carcinoma, stage II, aged 55 years and over, treated during 1962 to 1966 with surgery (○), irradiation (×), or combined treatment (●).

was negligible in comparison with the annual total, and the number of cases in stage III was decreasing. Cases treated with irradiation only will usually represent a selective group and are therefore also listed. All cases were treated between 1960 and 1966.

Results

Figs 1 to 4 illustrate survival percentages for women under and over 55 years, respectively, with mammary carcinoma in stages I and II, distributed according to treatment by surgery, irradiation, or a combination of both methods. Surgery or surgery combined with irradiation are the most common methods.

It appears that women in stage I under 55 years old have at least as good a prognosis when treated with surgery alone as when surgery is supplemented with radiation

Table 2

Five-year survival for mammary carcinoma

	Surgery						Surgery combined with irradiation					
	< 54 years			> 55 years			< 54 years			> 55 years		
	Adm.	No.	Per cent	Adm.	No.	Per cent	Adm.	No.	Per cent	Adm.	No.	Per cent
Stage I												
1960	35	25	71.4	71	33	46.5	184	154	83.7	249	166	66.7
1961	37	33	89.2	75	40	53.3	220	175	79.5	288	199	69.1
1962	46	36	78.3	88	54	61.4	233	172	73.8	314	210	66.9
1963	42	30	71.4	82	38	46.3	275	207	75.3	391	216	55.2
1964	41	31	75.6	95	52	54.7	275	199	72.4	356	215	60.4
1965	56	45	80.4	127	69	54.3	279	214	76.7	464	303	65.3
1966	59	49	83.1	141	66	46.8	294	202	68.7	455	280	61.5
	316	249	78.8	679	352	51.8	1 760	1 323	75.2	2 517	1 589	62.3
Stage II												
1960	17	10	58.8	20	7	35.0	69	41	59.4	118	53	44.9
1961	18	9	50.0	17	4	23.5	66	42	63.6	107	39	36.4
1962	10	5	50.0	26	5	19.2	71	42	59.2	96	46	47.9
1963	5	1	20.0	17	3	17.6	74	34	45.9	83	33	39.8
1964	7	4	57.1	19	7	36.8	59	32	54.2	73	28	38.4
1965	6	3	50.0	17	8	47.1	71	35	49.3	84	30	35.7
1966	4	1	25.0	15	1	6.7	58	33	56.9	88	40	45.5
	67	33	49.3	131	35	26.7	468	259	55.3	648	269	41.4

therapy. Conversely, women over 55 have a better prognosis when surgery is combined with irradiation.

For women in stage II a combined treatment seems to offer the best prognosis.

Survival rates (Table 2) did not improve essentially during the period, with the possible exception of surgical treatment for tumours in stage I. It may be noticed that the number of patients in this stage has increased, while the number in stage II was constant and in stage III slightly decreased, indicating that women apply to a doctor earlier.

A small decline in survival rates for combined treatment of stage I seems to have occurred, at least in the younger group of women, who, as previously shown, may be less sensitive to irradiation than postmenopausal women. This suggests that there may have been some trend towards less radical surgery, which radiation therapy has been unable to make up for, particularly for younger women in stage I. The numbers for stages II and III are inconclusive.

Conclusion. The results indicate that radiation therapy may be superfluous as a supplement to surgery in the treatment of premenopausal women with carcinoma of

the breast in stage I. As sole treatment, irradiation seems more effective than surgery for women aged over 55 in stage I.

Survival rates for the individual years suggest that radiation therapy will not make up for reduced radicality in the surgical procedures.

It would seem desirable that results of treatment should be presented separately for premenopausal and postmenopausal women.

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SUMMARY

Survival rates for mammary carcinoma, based on the data of the Danish Cancer Registry for women admitted 1960 to 1966, show about the same values for women aged under 55 in stage I, whether surgical treatment has been combined with radiation therapy or not. For women aged over 55, combined treatment is followed by better survival rates than surgery or radiation therapy alone. For stage II, this applies both to younger and older women.

ZUSAMMENFASSUNG

Überlebensfrequenzen für Patienten mit Brustkarzinom, die sich auf Daten von 1960 bis 1966 des Dänischen Krebsregisters stützen, zeigen etwa dieselben Werte für Frauen im Stadium I, jünger als 55 Jahre, unabhängig davon ob eine chirurgische Behandlung mit Strahlentherapie kombiniert war oder nicht. Für ältere Frauen im Stadium I sowie für beide Altersgruppen im Stadium II zeigte die Kombinationsbehandlung den besten Erfolg.

RÉSUMÉ

Les taux de survie pour le cancer du sein, basés sur les données du registre Danois du Cancer pour les femmes admises entre 1960 et 1966 montrent à peu près les mêmes valeurs pour les femmes âgées de moins de 55 ans au stade I, que le traitement chirurgical ait été ou non associé avec un traitement par les radiations. Pour les femmes âgées de plus de 55 ans, le traitement associé donne un meilleur taux de survie que la chirurgie seule ou le traitement par les radiations seul. Pour le stade II, ceci s'applique aussi bien à des femmes relativement jeunes qu'à des femmes plus âgées.

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