

TERTIARY SYPHILIS IN DENMARK 1961-1970

A Description of 105 Cases Not Previously Diagnosed or Specifically Treated

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Abstract. An investigation was carried out to estimate the incidence of late manifestations of syphilis in Denmark between 1961 and 1970 using the register at The State Serum Institute for patients with positive syphilis serology. The data from that register supplemented with data from hospital records yielded 105 cases—52 males and 53 females—of late syphilis. Thirteen patients suffered from more than one complication. Neurosyphilis had been diagnosed in 40 men and 32 women, cardiovascular syphilis in 24 men and 20 women. Four women had gummatous syphilis. It is concluded that the number of patients in our material with late syphilis is a minimal figure and that extensive use of serologic screening must be applied to prevent undiscovered early and latent syphilis from progressing into late symptomatic syphilis, especially as the incidence of early syphilis is increasing.

Key words: Syphilis; Tertiary complications of syphilis

A steady decline in the incidence of syphilis against a relatively constant medical and social background began in 1920 and continued until 1940. This decline which took place before the introduction of antibiotics may have been due to several factors (7). One of them could be the long-lasting treatments with salvarsan which protected the patients against rapid reinfection from untreated contacts. This decline in the incidence of syphilis ended at the time of the Second World War and could be a consequence of changes in the patterns of sexual behaviour brought about by the War. The increase of syphilis started in Denmark in 1942, peaked in 1945, and was followed by a rapid decline. No difference was found in the number of previously undiagnosed latent syphilis cases before and shortly after the Second World War (6). The aim of this study was to demonstrate the incidence of previously unrecognized tertiary syphilis in the years 1961-70 and to report on some pertinent clinical observations.

MATERIAL AND METHOD

The 105 patients included in this study were collected from hospital records from all over Denmark from the years 1961-70. The standard lipoidal tests for syphilis in the Wasserman (WR), Kahn (KR), and Meinicke (MR) reactions carried out at the State Serum Institute in Copenhagen were positive in all 105 patients. The Treponema Pallidum Immobilisation test (TPI) was performed on 95 patients with a positive reaction in all 95 cases.

The selection of patients was based on information taken from the register kept at the State Serum Institute, of patients with positive serology. In all registered cases of late syphilis we collected additional information from hospital records and from general practitioners. The clinical criteria for including a patient in our series were as follows:

Aortic aneurism: only patients with aneurism of the ascending aorta.

Aortic insufficiency: diastolic murmur, high pulse pressure, left ventricular hypertrophy shown on X-ray, and no history of rheumatic heart disease.

Uncomplicated syphilitic aortitis: only autopsy cases.

Meningovascular syphilis: one patient only, an autopsy case.

Tabes dorsalis: impaired tendon reflexes, absent deep pain sensibility, ataxia, positive Romberg, positive serologic tests for syphilis in the spinal fluid together with pleocytosis and elevated protein concentration.

General paralysis of the insane: the diagnosis was made in mental hospitals. The patients presented a large variety of symptoms, which are not in themselves diagnostic. Spinal fluid examinations as above.

Asymptomatic neurosyphilis: positive spinal fluid tests as above.

Benign tertiary syphilis: histology.

RESULTS

Of the 105 patients 52 were men and 53 women. The age distribution is shown in Fig. 1. The highest incidence was found in patients between the ages of 50 and 70, peaking in the mid-sixties (Fig. 2). This

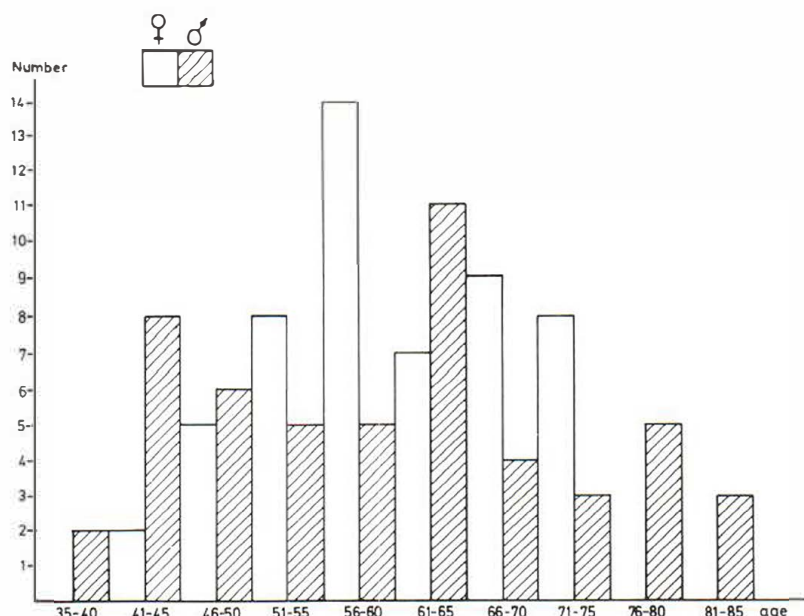


Fig. 1. The age distribution of the patients.

peak contains all the diagnoses and is not an isolated increase in the incidence of asymptomatic neurosyphilis.

In Table I the diagnostic groups are arranged according to the age of the patient at the time of diagnosis. Six men and 2 women suffered from both neurosyphilis and cardiovascular syphilis. Four men and one woman had two major cardiovascular

complaints at the same time. Cases with more than one lesion are not more frequent in the mid-sixties and do not explain the peak. Sixty-eight per cent of the patients were more than 55 years old. The same holds true for asymptomatic neurosyphilis as an isolated diagnosis.

Cardiovascular syphilis is slightly more common in the older age groups. The mean age of patients with symptomatic neurosyphilis is 56, and with cardiovascular syphilis it is 64.

The following case histories are included to illustrate some clinical data in cases we considered of special interest.

CASE REPORTS

Patient 1

A 49-year-old man without cardiac symptoms until the beginning of 1967. For 2 months he suffered from paroxysmal dyspnoea, cough, frothy sputum, and retrosternal pain. WR and TPI were strongly positive. Although he was treated with eight million I.U. of crystalline penicillin his condition worsened, and finally acute cardiac failure set in. X-rays of the heart and the central vessels showed dilatation. The pulse pressure was high and a diastolic murmur was heard. The patient was treated with digitalis and diuretics. He was also treated with penicillin, one million I.U. twice a day in five periods, each lasting 10 days. Nevertheless, his condition worsened rapidly and in November 1967 he was admitted to the hospital with symptoms of pulmonary embolus. The patient died a few weeks later. The autopsy showed severe aortitis, aortic insufficiency, cardiac dilatation, and multiple pulmonary infarcts.

Table I. The single diagnoses, the age, and the sex distribution of the patients, at the time of diagnosis

A=asymptomatic neurosyphilis, B=tabes dorsalis, C=general paralysis, D=meningovascular, E=atrophy of n. opticus, F=aortic insuff., G=aortic aneurism, H=uncomplicated aortitis, I=benign tertiary

Age	Total	Diagnosis								
		A	B	C	D	E	F	G	H	I
35-40	2	1	1							
41-45	11	5	2	2			1		1	
46-50	11	5		2		1	1		1	
51-55	14	5	1	3			2	1	1	1
56-60	23	10	2	2			3	2	1	3
61-65	21	8	4	2			4	2	1	
66-70	15	3	1	1			4	4	2	
71-75	14	5		1		1	1	2	4	
76-80	6	2			1			1	2	
81-	3	1							2	
Total	120	45	11	13	1	2	16	13	15	4
Men	64	24	7	7	1	1	7	8	9	0
Women	56	21	4	6	0	1	9	5	6	4

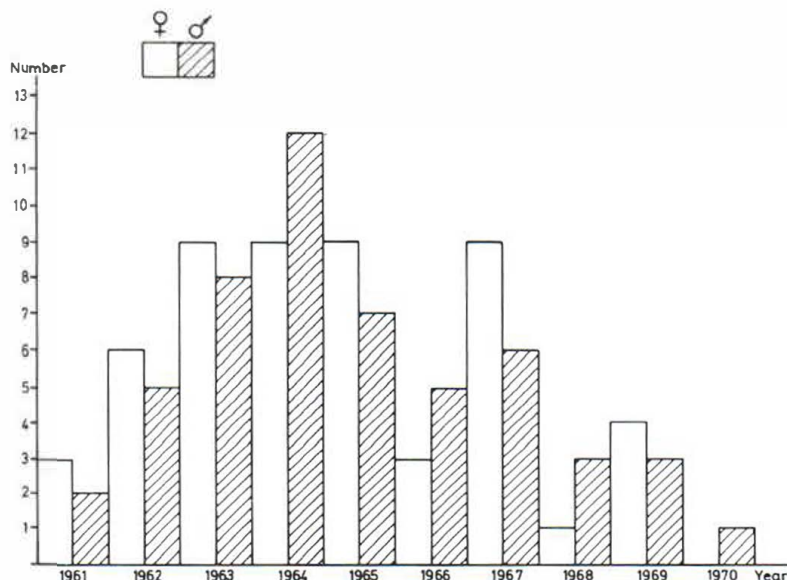


Fig. 2. The distribution of the patients according to year of discovery of syphilis.

Patient 2

A 56-year-old woman was admitted to a surgical ward because of a painful tumour on the lower part of her left tibia, which had developed over a period of 6 months. X-ray: periosteal thickening with a smooth surface. Biopsy from skin and periosteum: necrotising periostitis and epithelioid granulomas in the corium and subcutis. These findings were followed by serology tests which showed positive WR and TPI. After treating the patient with penicillin G, one million I.U. twice a day for two periods each lasting 10 days, she was fully recovered.

Patient 3

A 59-year-old woman who for 10 years had been suffering from nodular, ulcerating, and scarring lesions on the face and on the extremities, disabling her left arm and hand. The tonsils and the uvula were missing. A defect measuring 1 cm² was seen in the soft palate. The WR and TPI were strongly positive. Skin biopsy: tuberculoid granulomas. X-rays of the skeleton: osteitis in both clavicles and the right ulna. Chest X-ray: fibrosis of the lung. Treatment: Penicillin-procaine 600 000 I.U. daily for 14 days, repeated after one month. This treatment resulted in healing of the skin changes. At re-examination 2 years later the X-rays showed the same changes.

Patient 4

A 51-year-old man was admitted to a mental hospital because of magalomania, insomnia, aggressiveness, and hallucinations. The symptoms had progressed over a period of one year. The WR and TPI in blood and spinal fluid were strongly positive. The patient was treated with crystalline penicillin 6 million I.U. daily for 10 days, repeated 5 times, totalling at 360 000 000 I.U. of penicillin. In spite of these massive doses of penicillin the patient was only partly restored and had to be kept hospitalized due to aggressiveness and megalomania.

DISCUSSION

In the Oslo study of untreated syphilis (3) neurosyphilis was found in 6.5%, cardiovascular syphilis in 10.4%, and benign tertiary syphilis in 15.8% of the patients.

Benign tertiary syphilis seems to have become particularly rare today. The many cases of asymptomatic neurosyphilis in the present material are a result of the frequent use of spinal punctures as a diagnostic means and as a control measure in the standard management of late syphilis today. The figures are therefore not comparable to the figures in the Oslo study where asymptomatic neurosyphilis is not mentioned.

The 20 cases of symptomatic neurosyphilis and the 38 cases of cardiovascular syphilis in this paper may be compared to the 62 cases of neurosyphilis and the 92 cases of cardiovascular syphilis found in the Oslo study. The relative proportions are almost identical. When using the Oslo study as a basis it appears that our figures for cardiovascular syphilis and neurosyphilis might be reflected in the outcome of untreated syphilis in a total of about 340 patients. This figure is probably only a minimum, since our meningovascular syphilis group contains only one patient. The many different manifestations of meningovascular syphilis might lead to difficulties in establishing the diagnosis.

Today, late syphilis is still a cause of disability and death, also in Denmark. Our case histories illu-

strate that the lesions in tertiary syphilis are destructive and that at this stage a curative effect of penicillin treatment cannot be expected. The prerequisite for the prevention of late manifestations of syphilis is discovery of the infection in the early stages, followed by adequate treatment (5). This calls for an efficient public health service and extensive group examinations using serologic methods (4). Serologic tests are important as it is felt by experienced dermatologists that the early stages of syphilis may cause fewer symptoms since the introduction of penicillin (7). The clinical diagnosis of early syphilis may therefore be difficult as the symptoms often are confusing (2). This may eventually lead to an increasing incidence in the cases of undiscovered early syphilis (1).

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