SYPHILIS OF THE SALIVARY GLANDS *

JAROLD E. KEMP, M.D.

AND

JOSEPH EARLE MOORE, M.D.

BALTIMORE

The salivary glands, especially the parotid, may share in the general glandular involvement of the early stages of syphilis, or more frequently, may be the seat of tertiary lesions of the disease. Of about 5,600 cases of syphilis in all stages seen in the Syphilis Department of the Johns Hopkins Hospital, four, or less than 0.07 per cent., presented involvement of this glandular group, and so far as we have been able to determine, the literature contains the report of only sixty-one cases. The rarity of the condition, the paucity of reports in English and the differential diagnostic problem raised by these lesions warrants a report of our own cases.

REPORT OF CASES

CASE 1 (G39522).—*Chancre of the upper lip; enlargement of submaxillary glands.*

A white man, aged 36, was first seen Dec. 17, 1920, complaining of a lump under the right side of the jaw. He had been married two months before admission. His wife had acquired syphilis from her first husband. Otherwise the family and personal history were unessential.

About the middle of November, a painless sore appeared on his upper lip. It reached its maximum size rapidly, and had not grown during the month before admission. A week or so after its appearance, he noticed a swelling under the right side of his jaw, which had continued to enlarge, and which at present caused him some local discomfort.

Except for the local findings, the physical examination revealed nothing of interest. On the mucocutaneous border of the upper lip in the midline was an indurated, round, tumor-like erosion, measuring about 2 cm. in diameter. This was a typical chancre. Unfortunately, a dark-field examination was not made. The submaxillary glands on the right side were markedly enlarged, measuring 3 by 5 cm. The swelling was hard, indurated and slightly tender. The overlying skin was not involved. The left submaxillary gland was also enlarged, but not to such an extent. The other salivary glands were not involved. With the exception of polyadenitis, there were no signs of secondary syphilis. The blood Wassermann test was positive.

After six intravenous injections of arsphenamin, of 0.4 gm. each, the lesion on the lip had completely healed, and the tumor in the neck had practically disappeared.

CASE 2 (F51439).—*Gummas of the parotid, nasal septum and turbinates. Improvement under treatment.*

* From the Syphilis Department of the Medical Clinic, Johns Hopkins Hospital.

A colored man, aged 24, entered the clinic on May 3, 1916, complaining of a sore nose. The family history was negative. He denied syphilis by name and symptom, and stated that with the exception of mumps as a child he had always been perfectly healthy.

The present illness began in March, 1916, when he first noticed a sore in his left nostril. This was painless and was accompanied by little discharge. He made no mention of the other findings which were later noted, since they apparently caused no subjective discomfort.

Examination revealed these positive points: In both parotid regions were found large, firm, well circumscribed swellings about 5 by 3 cm. in size. The mass on the left was a little larger than that on the right. There was marked enlargement of the glands of the neck, the largest being about 2.5 cm. in diameter. The left nasal septum and the anterior portion of the left turbinates were ulcerated. The blood Wassermann test was positive. A roentgenogram of the skull was negative.

The patient was very irregular in his attendance at the clinic, but after one intravenous injection of arsphenamin, 0.3 gm., the nasal lesion had healed completely, and the parotid swellings had reduced greatly in size. A short time later he disappeared from observation.

CASE 3 (G22973).—*Gumma of the right parotid with sinus formation; paralysis of the terminal branches of the right seventh nerve; periostitis of the right tibia.*

A colored man, aged 35, was admitted to the hospital, Dec. 5, 1919, complaining of swelling of the face and a sore leg. He had been married ten years. His wife had had two pregnancies, both children dying about one month after birth. He admitted many Neisser infections and eighteen years previously had a genital sore which was later followed by a rash.

The swelling of his face began two and a half months before admission. It was painless and had gradually grown larger. Within a short time after its appearance, it softened and broke down exteriorly, with a resulting discharging sinus. This had closed spontaneously before his entrance to the clinic. About six weeks later, following a local injury, his right leg became swollen, painful and tender to pressure.

Physical examination revealed weakness of the right upper lid and the muscles around the mouth. There was complete paralysis of the frontalis on the right. There was also excessive lacrimation of the right eye, though no enlargement of the lacrymal gland on that side could be discovered. In the right parotid region was a tumor mass, extending from the level of the upper attachment of the auricle down to the lower attachment. The mass was firm and painless, and the surface temperature was not raised. The scar of the healed sinus was present. The overlying skin was freely movable, and the mass was not attached to the bone. A probe could not be passed into Stenson's duct, although the flow of saliva was not impeded. Over the lower third of the right leg and ankle there was swelling and tenderness, more marked over the tibia. The blood Wassermann reaction was positive. Roentgen-ray examination of the right leg showed periostitis of the tibia and fibula. The patient was treated for a short while only and showed definite improvement. He disappeared from observation before complete resolution of his lesions.

CASE 4 (G58197).—*Gumma of the parotid gland; nodular syphilid of the cheek; gumma of the right quadriceps femoris muscle.*

A colored girl, aged 23, came into the dispensary Dec. 14, 1921, complaining of swelling of the jaw. Her family history was negative. She admitted frequent

sexual exposure since the age of 14. When she was 16, she had a miscarriage at one and one half months. On close questioning she denied any signs or symptoms of early syphilis.

Her present trouble began two years before admission, when a lump appeared above the right knee, and gradually increased in size. It was painful only at night, but was not especially tender to pressure, and the main subjective discomfort was slight stiffness of the right leg on walking. About eight months ago a swelling appeared on the right side of the face, which at first grew rapidly, and for a short time was painful, especially at night. The size of this mass remained constant, without any noticeable variation. About the time of the appearance of this lump, she noticed a "pimple" inside the left nostril, which gradually grew larger and opened exteriorly. After several roentgen-ray treatments, given by an outside physician, the nasal condition cleared up, but the mass on the right side of the face remained unchanged.

Examination revealed a diffuse swelling of the right side of the face. At the angle of the mouth on the right, deep beneath the skin were three cherry sized nodules, over one of which the skin was dusky red. Otherwise the skin was not involved. Beginning just below and behind the angle of the jaw, and extending up the right side of the face to the level of the zygoma, was an irregularly shaped, firm, elastic, painless mass about 8 by 8 cm. It occupied the position of the parotid gland, was not attached to the skin and apparently not to the bone. Stenson's duct was not obliterated. Inside the left nostril a large destructive scar was seen. On the outer aspect of the right leg, about 4 cm. above the patella, was found a hard firm mass about 2 by 4 cm. It was situated deep below the quadriceps fascia, moved with the muscle and was apparently not attached to the bone. There was slight tenderness on deep pressure. The blood Wassermann reaction was positive. A roentgenogram of the right leg showed only soft tissue swelling on the outer side of the femur.

After the intravenous injection of three weekly doses of arsphenamin, 0.3 gm. each, the parotid swelling and the other lesions had completely disappeared. No abnormalities could be detected at the site of the old lesions.

DISCUSSION

Richter,¹ in 1800, reported a case in which the parotid on one side was enlarged as a result of a chancre on the lip; and a few similar reports of involvement of the salivary glands when in the drainage area of the head or face chancres have since appeared. Our own Case 1 falls into this category. In secondary syphilis also, it has occasionally been noted, especially by Flandin and Aubin² that the parotid, submaxillary, or other salivary glands were enlarged, usually bilaterally, as a part of the general glandular involvement of this stage of the disease. In such cases, the enlargement is symmetrical, variable in size, usually painless, and it subsides as the other secondary lesions recede.

1. Richter, A. G., quoted by Gerber: *Syphilis der Speicheldrüsen*, *Handbuch der Geschlechtskrankheiten* 3:109, 1913.

2. Flandin, C., and Aubin: *Syndrome de mickulicz fruste à localisation biparotidienne chez un syphilitique secondaire*, *Soc. franc. de dermat. et syph.* 1920, p. 510.

In 1864, Virchow³ reported the first case of tertiary involvement of the parotid gland. Important contributions to the subject were made by Lancereaux⁴ in 1874, Bull⁵ in 1878, and Lang⁶ in 1880. In 1913, Gerber⁷ compiled the cases reported up to that date, and the additional literature up to 1916 has been reviewed by Vuillet (1913)⁸ and Haslund.⁹ Cases have also been reported by Simard,¹⁰ Guibaud,¹¹ DeMassy and Tochman,¹² Letulle and Vuillet,¹³ Lemierre,¹⁴ Kjellberg¹⁵ and Packard.¹⁶ Including the four cases which we report, the literature affords the details of sixty-five cases of syphilis of the salivary glands, of which thirty-eight occurred in tertiary syphilis. We have not included in this total a few additional references which are not accessible to us.¹⁷

More than half of the total recorded cases of syphilitic involvement of the salivary glands have occurred in late syphilis, as is shown in Table 1. Six cases have been reported as late lesions in congenital syphilis. It also appears that in the majority of cases, as in our own, the parotid only is involved. Two or more glands may, however, share

3. Virchow, R.: *Geschwülste* 2:439, 1864.
4. Lancereaux: *Traité de la Syphilis*, Paris, 1873, p. 253.
5. Bull, S.: *Syphilis of the Conjunctiva*, Am. J. M. Sc. **76**:405, 1878.
6. Lang, E.: *Ueber Mastitis und Parotitis Syphilitica*, Wein. med. Wchnschr. **30**: No. 9, 1880.
7. Gerber, P.: *Syphilis der Speicheldrüsen*, Handbuch der Geschlechtskrankheiten.
8. Vuillet: *Syphilis des Glandes Salivaires*, Thèse de Paris, 1913.
9. Haslund, O.: *Ueber Parotitis Syphilitica*, Dermat. Wchnschr. **62**:63, 1916.
10. Simard, A.: *Gumma de la Parotide*, Bull. méd. de Québec **8**:67, 1906.
11. Guibaud, M.: *Un cas de syphilis de la parotide*, Arch. de med. et pharm. Navales **105**:66, 1918.
12. De Massy and Tochman: *Syndrome de mickulicz à début rapide simulant les oreillons chez un syphilitique*, Bull. et mém. Soc. méd. d. hôp de Paris **42**:627 and 987, 1918.
13. Letulle, M., and Vuillet, M.: *Syphilome de la parotide*, Bull. et mém. Soc. méd. d. hôp. de Paris **35**:1149, 1913.
14. Lemierre, A.: *Parotidite syphilitique bilaterale avec paralysis de la faciale gauche*, Bull. et mém. Soc. méd. d. hôp. de Paris **43**:510, 1920.
15. Kjellberg, G.: *Deux cas de parotide syphilitique*, Acta dermat. vener. **1**:263, 1920.
16. Packard, F. R.: *Two Cases of Suppuration of the Parotid Gland with Pus in the External Auditory Canal*, J. A. M. A. **37**:450 (Aug. 17) 1901.
17. Felman, I.: *Gumma a parotisban bujokoros gegeszükület; izomgummak*, Orvosi hetil, Budapest **45**:406, 1901.
- Ito, T.: *A Case of Gumma of the Submaxillary Glands*, Hifubyog kiu Hiniokibyog, Tokyo **4**:126, 1904.
- Kjellberg, G.: *Om ett fall af Parotitis syphilitica med epikris*, Hygiea, Stockholm **6**:1307, 1906.

in the disease process; and in rare instances other acinous glands of the body, notably the breast or the lacrimal glands, may be affected.

The local lesion may be, as tertiary lesions are elsewhere, either a diffuse fibrosis or a gumma. The latter apparently is the common form of lesion in acquired syphilis, while fibrosis is the usual accompaniment of the congenital cases.

TABLE 1.—INCIDENCE OF INVOLVEMENT OF THE SALIVARY AND ACINOUS GLANDS IN ACQUIRED AND CONGENITAL SYPHILIS: A COMPILATION FROM THE LITERATURE

Glands Involved	Acquired Syphilis Early	Tertiary	Congenital Syphilis
Parotid	17	28	6
Submaxillary	1	2	
Sublingual	1	3	
Parotid and submaxillary	1	3	
Parotid and sublingual	—	1	
Parotid and breast	1	—	
Parotid and lacrimal	1	—	
Blandin-Nuhn's gland (tongue)	—	1	

When the lesion is located in the parotid or submaxillary gland, subjective complaints are often absent. The patient notices only a gradually increasing swelling which may be only slightly painful. There is usually increased salivation. Mastication may be interfered with if the growth becomes large enough. The size of the swelling is not, as in the case of stone in the salivary duct, subject to marked fluctuation. When the sublingual gland is involved, there is often mechanical interference with mastication, deglutition and speech. If the gumma softens and breaks down, a salivary fistula results. In the case of involvement

TABLE 2.—SEX AND AGE OF PATIENTS WITH SYPHILIS OF THE SALIVARY GLANDS

Age at Time of Appearance of Lesion	Male 25	Female 22
	Number of Cases	Number of Cases
0-10		3
11-20		1
21-30		16
31-40		11
41-50		6
51-75		4

of the parotid gland, a pressure paralysis of the terminal branches of the seventh nerve sometimes occurs. Neumann¹⁸ and Lemiere¹⁴ each report one such case, and one of our own cases presented the same picture.

Lesions of the salivary glands are equally frequent in men and women, as shown in Table 2. The age at which the lesions appeared

18. Neumann: Ueber Syphilis der Parotis und der Glandula Sublingualis, Arch. f. dermat. u. syph. **29**:1, 1894.

could be determined in forty-one cases. More than half the cases occurred during the third and fourth decade.

The diagnosis is sometimes obscure. In the parotid, for example, one must consider stone in Stenson's duct, mixed tumor, ordinary infections, tuberculosis and actinomycosis. It is, however, rarely necessary to resort to surgical procedures to arrive at the diagnosis. In early syphilis the concomitant existence of other lesions of a secondary type should remove all doubt. In our three cases of tertiary syphilis, other syphilitic lesions were present, in one instance a gumma of the nasal bone, in another periostitis of the tibia and in the third typical nodular syphilids and a gumma of the muscle. Many of the reported cases also presented other lesions of syphilis, so that this factor is an important diagnostic aid. The blood Wassermann test is usually positive, as in our cases. The results of therapy are the final conclusive evidence of the syphilitic nature of the disease.

The results of treatment in the gummatous type are brilliant. Complete resolution occurs, and at the end of a few weeks it is usually impossible to find any residual of the lesion. In fibrotic lesions of these glands, on the other hand, it may be impossible to effect a complete disappearance of the tumor mass. After a partial resolution, the size of the mass may remain stationary in spite of the intensive use of anti-syphilitic treatment.

The pathologic condition of these lesions has been studied in only a few instances, and the reports available to us indicate that it does not differ markedly from that of fibrotic or gummatous syphilis in other organs.

SUMMARY

The literature on syphilis of the salivary glands has been reviewed and four additional cases reported.