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Secondary syphilis

SHORT CASE REPORT

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Background

Syphilis is a sexually transmitted disease caused by the spirochete *Treponema pallidum*. It is divided into three stages: primary, secondary and tertiary. Latent syphilis is asymptomatic and occurs between these stages. Presentation can mimic many other illnesses.

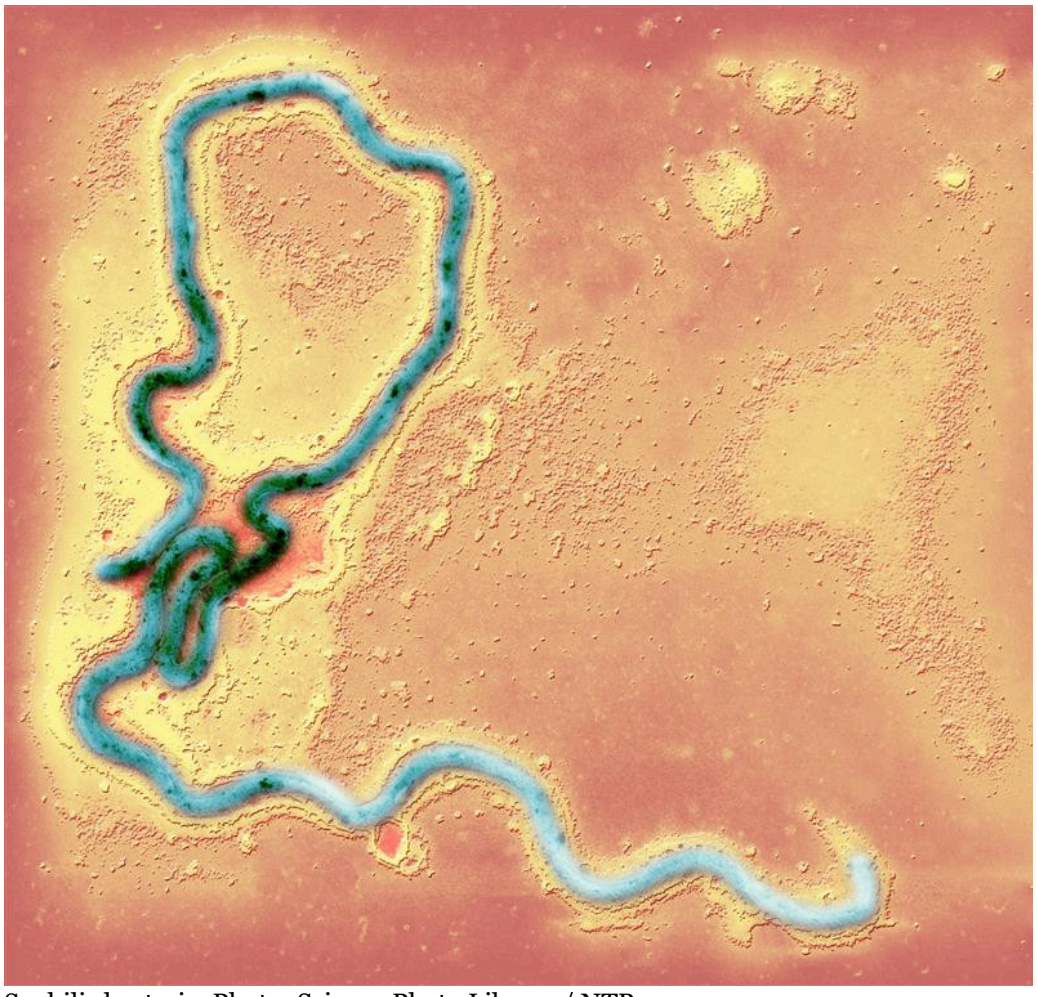
Case presentation

A man in his forties experienced a general decline in health over three to four months, with a sore throat and localised adenopathy. He was referred to an otolaryngologist to rule out malignancy. Based on ultrasound findings and lymph node biopsies, doctors suspected an infectious aetiology. Blood tests confirmed an active syphilis infection.

Interpretation

When patients present with localised or generalised adenopathy and a sore throat, it is important to consider taking a thorough sexual history and to test for sexually transmitted diseases.

A young man consulted a doctor because of a persistent sore throat. Enlarged lymph nodes were found in his neck. A malignant condition was suspected, but further investigation revealed findings consistent with syphilis.



Syphilis bacteria. Photo: Science Photo Library / NTB

A previously healthy man in his forties consulted a private specialist because of a sore throat lasting 3–4 months and mild general malaise. Clinical examination revealed pale mucous membranes in the oral cavity, a small adenoid in the nasopharynx, elongated hypertrophic tonsils and enlarged

cervical lymph nodes. Apart from elevated eosinophilic lymphocytes, all blood tests were normal. The condition was clinically assessed as residual symptoms following an upper respiratory tract infection, and the patient was treated with 40 mg prednisolone daily for six days. Because of the enlarged lymph nodes, he was referred for an ultrasound examination, which showed enlarged lymph nodes in the neck and submandibular region. A 15 mm lymph node with an inhomogeneous cortex raised suspicion of malignancy. He was then referred to the otorhinolaryngology department for further evaluation.

The referring doctor's findings were confirmed at the otorhinolaryngology department. Fine-needle cytology of an enlarged cervical lymph node revealed irregular lymphoid hyperplasia, leaving it unclear whether the process was reactive or neoplastic. On suspicion of lymphoma, the patient was scheduled for excision of the entire lymph node the following day. The surgeon repeated the clinical examination and ultrasound, which revealed enlarged lymph nodes without any indication of malignancy. Ulceration of the soft palate and mildly bleeding mucosa over both tonsillar beds were observed for the first time. During the consultation, it emerged that the patient had a steady male partner. On suspicion of a possible infectious aetiology, additional biopsies were taken and blood tests were ordered, including tests for HIV, syphilis, *Bartonella henselae* and Epstein-Barr virus.

The biopsies showed lymphoid hyperplasia without definitive evidence of malignancy. Immunophenotyping of the tonsil biopsy using a lymphoma/chronic lymphocytic leukaemia panel showed a normal phenotypic population, with no signs of lymphoma cells. Blood tests showed lactate dehydrogenase (LD) at 207 U/L (reference range 105–205), leukocytes 7.5 × 10^9/L (4.1–9.8), and eosinophilic granulocytes 7 % (0–8). Haemoglobin was normal. Syphilis testing revealed findings consistent with an active infection requiring treatment: *Treponema pallidum* antibody, TPPA > 20,480; *Treponema pallidum* antibody, RPR 128; and *Treponema pallidum* IgM positive. The patient was referred to the venereal disease clinic, where samples were collected from his urine, anus and throat for testing for other sexually transmitted infections. Clinical examination revealed a faint, erythematous, nummular rash on the trunk, with no changes on the palms or soles. The patient had mild, diffuse perianal dermatitis and no genital ulcers. There was no hair loss, and no symptoms from other organ systems. A basic neurological examination was normal.

The condition was clinically assessed as secondary syphilis. Contact tracing suggested that the patient likely contracted the infection over a year earlier, and he was consequently treated with benzylpenicillin 2.4 million IU intramuscularly once weekly for three weeks (1). His steady partner had no symptoms but tested positive for syphilis serology and received the same treatment regimen. Follow-up was scheduled at three, six and twelve months. At the three-month follow-up, the patient still had a mild burning sensation in his throat but there were no signs of ulcers. Skin examination was normal, and RPR values had decreased from 128 to 16.

Discussion

Syphilis is a sexually transmitted infection caused by the spirochete *Treponema pallidum*. The condition is divided into primary, secondary and tertiary stages and can present with a variety of skin lesions and other clinical signs. Asymptomatic latent phases can occur at any time if left untreated. Early latent syphilis is defined as less than one year after infection, while late latent syphilis occurs more than one year after infection. Latent syphilis can only be detected by positive serology.

Primary syphilis is typically characterised by one or more painless ulcers, known as chancres. These appear at the site of inoculation 3–90 days after exposure and usually resolve spontaneously within 3–6 weeks. Regional lymphadenopathy can also occur. Secondary syphilis results from systemic spread of the spirochete and typically appears weeks to months after the primary stage. Typical findings include general symptoms, widespread lymphadenopathy and a characteristic diffuse maculopapular rash, mainly affecting the trunk and extremities, often with involvement of the palms and soles (2, 3).

The patient in this case report exhibited several of the findings described above. The presence of lymphadenopathy and general symptoms meant it was important to rule out lymphoma. The combination of benign-appearing lymph nodes on ultrasound, histological findings showing no malignancy, and a normal tonsil biopsy phenotype on flow cytometry ruled out this diagnosis. In addition, active syphilis requiring treatment was fully consistent with the clinical picture presented by the patient.

If left untreated, syphilis can progress to the tertiary stage, typically 10–12 years after primary infection. This may result in a wide range of symptomatic manifestations, which can involve the cardiovascular system or lead to granulomatous disease of the skin, subcutaneous tissue, bone or viscera (2). Infection of the cerebrospinal fluid can cause neurosyphilis, which can occur at any stage of syphilis and result in a range of hearing problems, visual disturbances or other acute neurological conditions. Patients with such symptoms should undergo lumbar puncture (4, 5). Untreated syphilis can cause significant suffering for the patient, as described in the Oslo study and the study conducted in Tuskegee, Alabama (6).

The incidence of syphilis has been gradually increasing both worldwide and in Norway since the mid-1990s. In 2023, a total of 208 new cases were reported in Norway, the majority of which were men who have sex with men. Infections are also rising among heterosexual men, with 30 reported cases, compared to 169 among men who have sex with men. The incidence among heterosexual women has remained stable over recent years.

According to the Norwegian Institute of Public Health's 2023 annual report, about half of those infected that year were diagnosed with either primary or secondary syphilis, while the remainder had early latent syphilis. Late latent

syphilis is not reported to the Norwegian Surveillance System for Communicable Diseases (MSIS) as this stage is not considered infectious (7).

Syphilis can cause a wide range of symptoms affecting the skin and mucous membranes. This case report highlights the importance of considering syphilis as a key differential diagnosis in patients with unexplained throat pain accompanied by enlarged cervical lymph nodes.

The patient has consented to publication of the article.

The article has been peer-reviewed.

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