

Koplik spots in early measles

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A 30-year-old man presented with a 6-day history of fever, conjunctivitis, rhinitis, dry cough and dyspnea. A maculopapular rash had appeared on his face the day before presentation and had spread to his upper torso and shoulders. The patient had never been vaccinated against measles. On examination, we found small white spots on the buccal mucosa that resembled grains of salt and had a reddish background (Figure 1). We identified these as Koplik spots and diagnosed measles. The diagnosis was later confirmed by the presence of anti-measles IgM antibodies. The dyspnea was due to a mild form of measles bronchopneumonia. The patient recovered uneventfully.

Widespread vaccination against measles has resulted in very low incidence rates of the disease in developed countries. In the United States, for example, only 29–116 cases were reported annually between 2000 and 2007.¹ Up to 94% were related to unvaccinated residents who acquired the infection while travelling abroad, or nonresidents from areas with low vaccine coverage. Early detection of this highly transmissible disease is required to limit its spread. Koplik spots are highly characteristic of the prodromal phase of measles and can often be identified before the onset of the rash. Since they were originally described in 1896,² these millimetric, erythematous, white or grey specks on the buccal mucosa have been regarded as a pathognomonic feature of measles.³ They typically appear opposite to the upper molars a couple of days before the rash, occasionally extend to the whole buccal mucosa, then disappear as the rash develops. Koplik spots can be noted in at least 50%–70% of patients with measles if examination is timely.³ Occasionally, they also occur on the conjunctiva, the vaginal mucosa or the gastrointestinal mucosa.

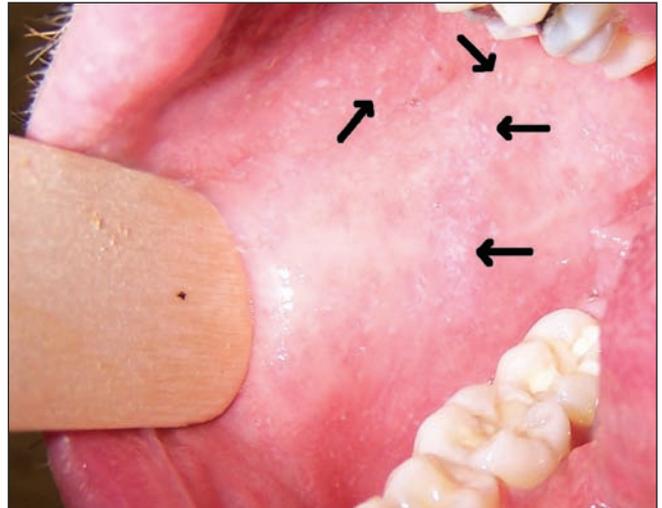


Figure 1: Koplik spots (arrows) in a 30-year-old man with measles, observed on the second day of the rash.

REFERENCES

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The onset of measles as described by Koplik in 1896

The first twenty-four to forty-eight hours of the invasion of measles is marked by a suffusion, slight or marked, of the eyes, and the conjunctiva at the nasal canthus is not only reddened but also slightly redundant. There is, at this stage, a slight febrile movement; there may be a cough or some little sneezing; the mother has noticed nothing except that the infant or child has a slight fever. At this period the eruption on the skin has not made its appearance. In the majority of cases there is no suspicion of any exanthema. In a few cases there is an indistinct spotting around the lips and alae nasi, but no eruption.

The mouth — If we look in the mouth at this period we see a redness of the fauces; perhaps, not in all cases, a few spots on the soft palate. On the buccal mucous membrane and the inside of the lips, we invariably see a distinct eruption. It consists of small, irregular spots, of a bright red colour. In the centre of each spot, there is noted, in strong daylight, a minute bluish white speck. These red spots, with accompanying specks of a bluish colour, are absolutely pathognomonic of beginning measles, and when seen can be relied upon as the forerunner of the skin eruption.²