Patient with Inflammatory Parotid Gland Disease

A 3-year-old body with complaints of lightning pain around the ear, parotid area swelling on the left, pain in swallowing and chewing is being examined by a pediatrician. The child has been sick for less than 24 hours (acute onset), had an episode of body temperature rise up to 39 ^{o}C in the evening the day before; the parents noticed submandibular area swelling and parotid area swelling on the left. *Examination:* body temperature – 38.6 ^{o}C, floppy child, intoxication symptoms, moderate hyperemia of the conjunctivae and the palatine arches, unobstructed nasal respiration. *Otoscopy:* no hyperemia or swelling of eardrums on both sides. Soft tissues edema in the parotid area on the left and the submandibular area; dense painful infiltrate on palpation (pic.). Viscera and intrinsic systems unremarkable. The child has been vaccinated in compliance with the vaccinal prevention calendar. Attends a kindergarten. *Ultrasound examination:* presentation of inflammatory alterations of the left parotid gland. Complete blood count: leukocytosis – 26.4 x 10^{9}/l, neutrophilia – 19.5 x 10^{9}/l, serum concentration of C-reactive protein – 66.2 mg/l.

Pic. Appearance of the body with parotid area swelling.

Possible diagnosis:
1. Epidemic parotitis (mumps).
2. Lymphogenic parotitis (Herzenberg's pseudoparotitis).
3. Infectious mononucleosis.
4. Acute sialadenitis.

Correct answer: 4. Acute sialadenitis.

Epidemic parotitis is an acute virus disease affecting salivary glands, especially parotid salivary glands. This process is bilateral in 70-80% of the patients. Parotid salivary glands are not usually affected at the same; the period of time between affections of glands may vary from 1 to 3 days. Parotitis is more often observed in school-aged children. It is characterized by such common symptoms of intoxication as ailment, headache, myalgiae. These symptoms are usually accompanied by low-grade fever and catarrhal events. Epidemic parotitis occurs as sporadic diseases and epidemic outbreaks in closed groups of people, especially in winter and in early spring, and features manifested seasonality. Diagnosis of epidemic parotitis is based on the clinical pattern and laboratory testing results. Epidemiological anamnestic data and the patient's vaccinal status data are important for diagnosing. Inflammatory alterations detected by complete blood count and increase in the level of bacterial inflammation markers are not typical of this disease. Despite the rare number of cases of epidemic parotitis due to cohort vaccination against this infection, it should not be ignored. In our patient, who had been vaccinated against epidemic parotitis, inflammatory process in the parotid gland was unilateral and featured an extremely high increase in the concentration of bacterial inflammation markers.

Lymphogenic parotitis (Herzenberg's pseudoparotitis) affects deep lymph nodes located under the capsule and inside the parotid salivary gland. The inflammatory process is usually unilateral and starts with a dense painful site in the parotid area. Inflammation of the parotid gland and its possible spread to muscles of mastication may restrict mouth opening. Inflammatory edema usually expands gradually (1-2 weeks). Symptoms of intoxication are characteristic of the condition, although not pyretic fever. Examination reveals a limited painful part of the parotid gland. The color of the skin over this site does not change. Parents of this patient mentioned acute onset with pyretic fever the day before visiting hospital; the child complained of pain when chewing and swallowing; however, he did not have problems opening the mouth.

Infectious mononucleosis is usually characterized by swelling of posterior cervical and occipital lymph nodes: they are mobile, symmetrical and detectable on both sides. Parotid glands are usually not affected. The condition is characterized by development of an edema and tonsil hypertrophy; patients often complain of acute nasal breathing trouble due to manifested adenoiditis and scanty catarrhal symptoms. Fever and manifestation of intoxication may vary. Infectious mononucleosis is characterized by lymphocytic leukocytosis, as well as by broad-plasma lymphocytes (atypical mononuclear cells) in blood; the level of such lymphocytes exceeding 10% is considered diagnostically significant.

Acute sialadenitis is characterized by acute onset after a short prodromal period, persistent pyretic fever and signs of intoxication. The parotid gland is swollen and tender on palpation. Posterior maxillary and mandibular lymph nodes may also be swollen. In infants, sialadenitis may occur secondary to cytomegalovirus infection.

Acute sialadenitis was suspected in this patient on the basis of characteristic complaints and clinical symptoms of the disease. The diagnosis was confirmed by means of ultrasound examination; laboratory analyses revealed an increased level of bacterial inflammation markers. The child was prescribed antibacterial therapy with amoxicillin/clavulanate – 80 mg/kg per day. In the setting of treatment the child's condition stabilized: fever disappeared within the 1st day of antibiotic intake, edemata – within 2 days of treatment.

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