ISSN 2181-

CLINICAL COURSE OF ACUTE SINUSITIS (ACUTUS SINUSITIS).

Muhammadiyeva.F.R.
mukhammadiyeva.farida@mail.ru
Bukhara State Medical Institute,
(998) 65-223-00-50, bsmi.uz

Resume

The purpose of the study is to study the clinical course of acute sinusitis and to identify and implement new approaches to its treatment.

Key words: sinusitis, allergy, virus, bacteria, treatment

Relevance

Acute sinusitis is a sudden inflammation of the sinuses that lasts at least four weeks. The synonym "rhinosinusitis" is also used. According to him, inflammation is a process that affects not only the mucous membrane of the sinuses, but also the nasal cavity [1].

The main causes of acute sinusitis are viruses or bacteria. Therefore, viral and bacterial forms of the disease are distinguished. Less often, anaerobes and intracellular microorganisms are the causative agents of acute inflammation in the paranasal sinuses.

Viral sinusitis often occurs like a cold and is seasonal. They are usually found in autumn, winter, spring and autumn during the warm season.

Viruses that cause inflammation of the upper respiratory tract include: rhinoviruses, influenza and parainfluenza viruses, respiratory syncytial viruses, adenoviruses and coronaviruses.

Usually, viral sinusitis does not require special treatment and goes away on its own. But sometimes recovery does not happen. This is due to an increase in the bacterial flora living in the sinuses. Most often, Streptococcus pneumoniae and Haemophilus influenzae are found in acute sinuses - they are found in 70-75% of all cases [2].

Predisposing factors for the development of bacterial sinusitis:

• curvature of the nasal septum;

• polyps;

• chronic rhinitis;

• adenoids in children;

• structural features of the ostiomeatal complex: a loop-like tumor, a middle nasal shell and a large bubble of the lattice bone.

Anaerobic infection in acute sinusitis can lead to maxillofacial pathology or chronic sinusitis. In this case, it is difficult to determine whether it is an acute or chronic form.

Allergic process and fungal flora can also cause sinusitis - if the disease is acute, it becomes chronic.

Symptoms of acute sinusitis

The main symptoms of acute sinusitis:

• difficulty breathing through the nose;

• headache;

• runny nose;

• cough in children.

In addition, in acute sinusitis, a decrease in the sense of smell, ear congestion, an increase in body temperature, and general weakness may also occur, but these conditions are not always observed [3][4].

Difficulty breathing accompanies most diseases of the nose, so this symptom alone does not confirm acute rhinosinusitis. At least two signs must be present for diagnosis.

In sinusitis, the headache has a squeezing character and is often aggravated by bending the head down. It can decrease after using drop drugs.

With inflammation in the maxillary and frontal sinuses, pain appears in the face, bridge of the nose, eyebrows and temporo-parietal region. Maxillary sinusitis manifests as a diffuse toothache on the affected side. Inflammation of the mucous membrane of

the sphenoid sinus (sphenoiditis) is characterized by pain in the center of the head and in the back of the head.

A runny nose does not always occur with acute sinusitis. Mucous discharge is characteristic of viral inflammation, if bacterial flora is added, purulent discharge appears. In children, good sinus drainage function and an open anastomosis are manifested in secretion secretion during blowing the nose and coughing. When the posterior parts of the sphenoid sinus and ethmoid labyrinth are affected, secretions flow into the back wall of the pharynx, causing coughing attacks.

A mild form of acute sinusitis is characterized by:

• difficulty breathing through the nose;

• mucous or purulent discharge from the nose;

• violation of sense of smell;

• mild facial pain without obvious signs of intoxication - the temperature remains normal or rises slightly.

In severe cases, the temperature rises to 38 ºC and higher, the headache increases, swelling of the eyelids and soft tissues of the face may develop.

Pathogenesis of acute sinusitis.

With sinusitis, the virus penetrates the mucous membrane of the nasal cavity, damages the ciliated epithelial cells and enters the human body. At the same time, the mucous membrane swells, mucus secretion increases in the nasal cavity, which further blocks the work of ciliated epithelial eyelashes. Usually, their action protects the body from foreign objects.

At this time, the patient has a runny nose, sore throat, cough, fever and weakness. The symptoms of the disease last seven days on average and gradually decrease.

Swelling of the mucous membrane and sinuses leads to nasal cavity blockage. As a result, drainage function is blocked, secretions stagnate

Intracranial complications:

• arachnoiditis (leptomeningitis) - serous inflammation of the arachnoid membrane of the brain;

• extradural abscess - accumulation of pus between dura mater and skull bones;

• subdural abscess - accumulation of pus between dura and arachnoid mater;

• brain abscess - a purulent focus surrounded by a capsule in the brain substance;

• serous and purulent meningitis - inflammation of the meninges;

• thrombosis of dural sinuses [4][7][10].

As can be seen from the table below, despite the variety of clinical forms of complications, their manifestations are similar. This makes it difficult to make a diagnosis and choose the right treatment tactics.

Complications of acute sinusitis

Complexity Clinical manifestations

Reactive swelling of the tissues of the orbit and eyelids Pale, painless, translucent swollen eyelids, often above the lower part. The eyeball may protrude from the orbit (exophthalmos).

Diffuse non-purulent inflammation of the tissues of the orbit and eyelids Swelling and redness of the eyelids (hyperemia) as a result of blood vessel congestion. Exophthalmos and intoxication

Osteooperiostitis of the orbit Swelling and hyperemia of the eyelids, exophthalmos and limited mobility of the eyeball

Eyelid abscess Swelling and redness of the eyelids, fluid changes when pressing the eyeball, intoxication

Subperiosteal abscess Swelling, hyperemia of the skin of the eyelids and conjunctiva, pain during palpation, displacement of the eyeball

Retrobulbar abscess and orbital phlegmon. Swelling and hyperemia of the eyelids and conjunctiva, severe exophthalmos, restriction of mobility of the eyeball and pain during palpation.

Thrombosis of orbital tissue and cavernous sinus veins Swelling and hyperemia of eyelids and conjunctiva of both eyes, severe exophthalmos, decreased visual acuity, intoxication

Arachnoiditis

(leptomeningitis) Inflammation of the choroid of the brain. Headache, nausea, dizziness and weakness

Extradural abscess Headache, nausea and intoxication

Subdural abscess Headache, nausea and intoxication

Serous and purulent meningitis Headache, nausea, photophobia, forced position of the body with the head thrown back and the appearance of meningeal reflexes

Brain abscess Headache, nausea, meningeal symptoms. Focal symptoms are diverse and depend on the location of the abscess

Dural sinus thrombosis: fever, temperature rise and fall, chills, profuse sweating and weakness.

Diagnosis of acute sinusitis

May include:

• anterior rhinoscopy;

• radiography of the sinuses;

• ultrasound research;

• diagnostic puncture;

• laboratory research;

• microbiological examination;

• diaphanoscopy.

Previous rhinoscopy

The main method of objective diagnosis of acute sinusitis [1][6][7]. This is done by an otolaryngologist using a nasal spray. Before its use, the mucous membrane of the nose is lubricated with a solution of a vasoconstrictor drug (anemization). This is done to reduce swelling of the mucous membrane.

The doctor evaluates the condition of the mucous membrane of the nasal conchas and passages, the absence or presence of flow. Symptoms of sinusitis are the presence of purulent or mucopurulent discharge in the area of the exit holes of the affected sinuses. It is accompanied by redness and swelling of the nasal mucosa.

Pathological secretion can be seen on the back wall of the oropharynx and nasopharynx cavity when examined with a spatula and nasopharyngeal probe (posterior rhinoscopy) and when examining the pharynx (pharyngoscopy).

Endoscopic examination of the nasal cavity

Detecting the smallest anatomical changes, it allows a detailed examination of the turbinates of the nasal passages and nasopharynx. Video endoscopy is often performed and the result is recorded, which later helps to assess how the disease progresses.

X-ray of the sinuses

Use only for chronic runny nose and headache for about 7-10 days [1][6][7]. During the procedure, the head is fixed in a certain position - in nasomental, nasofrontal and lateral projections. The position of the head is determined by the radiologist. With sinusitis, the mucous membrane thickens, the level of horizontal fluid is determined, and the pneumatization of the sinus is significantly reduced.

Computed tomography (CT) is used for chronic pathology of paranasal sinuses, orbital and intracranial complications. It is not appropriate to use it to diagnose acute sinusitis. Neither X-ray nor computer tomography can distinguish between viral and bacterial It is actively used in the examination of children and pregnant women.

The effect of ultrasound is based on the reflection of the ultrasound signal in a linear and two-dimensional mode at the boundary of two substances with different acoustic properties (bone - air, air - exudate, etc.). In the first case, ultrasound scanners ("Sinusoscope", "Sinuscan") are used for the paranasal sinuses, and in the second case, standard ultrasound devices are used.

Diagnosis through puncture

Sinus puncture (from the Latin "puncture") is not a routine diagnostic method due to the high risk of complications. It is used if there are contraindications to radiography, for example, during pregnancy.

Laboratory diagnostics

Includes complete blood count and C-reactive protein (CRP) determination.

Allows:

• to distinguish viral sinusitis from bacterial sinusitis and, therefore, determine the need to take antibiotics;

• assessment of disease severity and dynamics.

Microbiological examination

It is carried out in cases of long-term forms of sinusitis and ineffectiveness of antibiotic therapy. For the study, you will need material taken from the nasal cavity or a puncture from the affected sinus.

The reliability of the method is relative, and the information content is small. First, the microflora of the nasal cavity and sinuses is initially different. Taking a smear, even if all the conditions are met, does not guarantee that the bacterium grown in the media is the cause of inflammation in the sinus and is not an accidental "traveler" when removing a cotton probe from the nose.

The information content of microbiological studies in children is even lower. This is due to the child's negative reaction to the manipulation and inability to perform the procedure correctly [11].

Secondly, reliability may be affected by non-compliance with the conditions of storage and transportation of biomaterial [12]. Therefore, the evaluation of the results of microbiological studies is complicated and uncertain.

Diaphanoscopy

An outdated non-invasive method for diagnosing sinusitis of the maxillary sinus. This is done using a special lamp. If the space is airy, then the sinus is highlighted in red. [5]. If there is pus in the sinus, the glow will turn black.

Treatment of acute sinusitis

The choice of treatment tactics depends on the form and severity of acute sinusitis. Mild to moderate exudative sinusitis is often treated with conservative or invasive sinus drainage techniques.

Conservative treatment

The goal of treatment of acute sinusitis is to restore the patency of the inflamed sinus anastomosis and prevent orbital and intracranial complications. For this, in the first days of treatment, but no more than seven days, vasoconstrictors are used, and the nasal mucosa is moistened and washed with a saline solution (sodium chloride 0.9%)

Such measures prevent the growth of bacteria.

Intranasal glucocorticosteroids (InGCS) reduce swelling of the mucous membrane and the formation of mucus and pus (exudate). Due to this, nasal breathing improves and exudate from the sinuses is restored [12]. They can be used as monotherapy for mild forms and in combination with other drugs in more severe cases.

It is not recommended to use antibiotics in the first seven days. The indication for antibiotic therapy is only bacterial sinusitis. This diagnosis is made by the doctor on the basis of complaints, anamnesis, objective data, additional examination methods and differential diagnosis.

Sinus drainage

Invasive methods of sinus drainage include:

• hole;

• Use of "YAMIK" sinus catheter;

• balloon sinusotomy - expansion of the natural anastomosis.

Puncture of the maxillary sinus is performed through the lower nasal passage with a Kulikovsky needle.

Then the contents of the sinus are removed by washing with a syringe with a saline or antiseptic solution.

The frontal sinus is often pierced with a thin needle through the orbital wall; trephine puncture is performed less often - a hole is made through the anterior wall with the help of a drill or tools for drilling bones (trepans).

The course of treatment consists of several punctures, so the catheter is inserted into the sinus for an average of 10 days.

Sinus puncture is an invasive procedure associated with the risk of serious complications. Alternatively, YAMIK sinus catheter can be used. The device was designed by the Russian otorhinolaryngologist V.S. Kozlov.

The catheter is inserted into the nasal cavity into the nasopharynx. Air-filled chambers create negative pressure, which helps drain the sinuses.

All invasive procedures are performed after topical anesthesia and anesthesia of the nasal cavity.

Puncture of the maxillary sinus is associated with the risk of needle penetration into the soft tissues of the cheek, orbit and pterygopalatine fossa. In addition, nazolacri during the procedure

. List of references

1. Fokkens W., Lund V., Mullal J. European Position Paper on Rhinosinusitis and Nasal Polyps Group. European position on rhinosinusitis and nasal polyps // Rhinol. Suppl. - 2007. - No. 20. - P. 1–136. link

2. Strachunsky L. S., Tarasov A. A., Kryukov A. I., etc. The causative agent of acute bacterial rhinosinusitis. Results of multicenter microbiological research of the USSR // Klin. microbiol. Antimicrobial Chemotherapy - 2005. - No. 7 (4). — pp. 337–349.

3. Sclafani E. P., Dileski R. A., Pitman M. J., Shantz S. P., etc. General otorhinolaryngology - head and neck surgery: in 2 volumes / trans. from English Yu. Under the general editorship of K. Yanov. - M.: Panfilov Publishing House, 2017. - T. 1. - 736 p.

4. Probst R., Grevers G., Iro G. Otorhinolaryngology in clinical practice / trans. edited from English by A. S. Lopatina. - M.: Practical medicine, 2012. - 384 p.

5. Manual of Otorhinolaryngology: 2nd edition, revised. and additional / ed. I. B. Soldatova. - M.: Medicine, 1997. - 608 p.

6. National Medical Association of Otolaryngologists. Acute sinusitis: clinical indications. - M., 2016. - 30 p.

7. Otorhinolaryngology. National leadership / ed. V. P. Palchuna. - M.: GEOTAR-Media, 2008. - 960 p.

8. Fokkens W. J., Lund V. J., Mullal J. European position on rhinosinusitis and nasal polyps 2012 // Rhinol Su

9. Chow A.W., Benninger M.S., Brook I. et al. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults // Clin Infect Dis. — 2012. — No. 8. — P. e72–e112. link

10. Rukovodstvo po rinologii / pod ed. G. Z. Piskunova, S. Z. Piskunova. — M.: Litterra, 2011. — 960 p.

11. Gordts F., Abu Nasser I., Clement P. A. et al. Bacteriology of the middle meatus in children // Int J Pediatr Otorhinolaryngol. — 1999. — No. 2. — P. 163–167. link

12. Rossiiskoe obshchestvo rhinologov. Acute rhinosinusitis: clinical recommendations / pod ed. A. S. Shovel. — M., 2017. — 36 p.

13. Kozlov R. S., Sivaya O. V., Krechikova O. I. i dr. Dynamics of antibiotic resistance of Streptococcus pneumoniae in Russia in the period 1999–2009. (Rezultaty mnogocentrovogo prospective issledovaniya PeGAS) // Klin. microbiol. antimicrobial. chemist. — 2010. — No. 4. — S. 329–341.

14. Voronkin V. F., Sergeev M. M. Intracranial inflammation and otorhinolaryngology. — Krasnodar, 2000. — 176 p.

15. Orlandi R.R., Kingdom T.T., Hwang P.H. et al. International Consensus Statement on Allergy and Rhinology: Rhinosinusitis // Int Forum Allergy Rhinol. — 2016. — No. 6. — P. S22–S209. link

16. Yanov Yu. K. Prakticheskie rekomendatsii po antibacterial therapy sinusitis: posobie dlya vrachey. — SPb., 2002. — 23 p.

17. Chee Yik Chang. Periorbital cellulitis and eyelid abscess as ocular manifestations of melioidosis: A report of three cases in Sarawak, Malaysian Borneo // IDCases. — 2019.ssylka

18. *11.* Muhammadiyeva. F. R. (2023). Changes in kidney microstructure in acetic acid poisoning. SCIENTIFIC JOURNAL OF APPLIED AND MEDICAL SCIENCES, 2(12), 584–586.