

# Retropharyngeal abscess

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## Anatomical and pathophysiological context

The retropharyngeal space, in a broader sense, is located between the posterior wall of the pharynx and the anterior wall of the cervical spine. The clinical significance of the retropharyngeal space is evident from its anatomical relationship to many structures - laterally, blood vessels and nerves are placed in the carotid sheath, the trachea and esophagus run at the front and the cervical vertebrae are at the back. The retropharyngeal space extends from the base of the skull to the mediastinum and allows the infection to spread to the mediastinum or other deep tissues of the neck.

From the point of view of possible spread of the infection, it is important to divide the retropharyngeal space by fascial leaves into 3 separate areas. **The retropharyngeal (Gillete) space** itself is bounded at the front by the middle layer of the deep cervical fascia and at the back by the alar leaf of the deep layer of the deep cervical fascia. In the lower part, both leaves join at the level of the Th1 vertebra. Between the alar leaf and the prevertebral leaf of the deep cervical fascia, there is a so-called "**danger space**", which freely passes into the **posterior mediastinum** and is caudally delimited by the diaphragm.

From a clinical point of view, it is important that in the retropharyngeal space there is connective tissue and **lymphatic nodes (Rouvier) nodes**.

RA is diagnosed primarily in toddlers as a **complication of purulent diseases** of the upper respiratory tract. The predominance of RA in this age group is due to the fact that Rouvier's lymphatic nodes spontaneously regress after the age of 5 and disappear irreversibly from this area.

In the pharyngeal infection (most often the nasopharynx), there is often reactive **swelling** of the retropharyngeal nodes, similar to swelling of the cervical nodes during infection in the tonsils. Swelling of the retropharyngeal nodes can often be observed as a paramedial arch on the posterior wall of the pharynx. If the infection develops further, **an abscess of the node** develops or the inflammation spreads outside the node to the surroundings and RA develops. Because the retropharyngeal space has a minimal boundary from the **parapharyngeal space**, we often encounter the spread of infection to this space as well.

## Etiology

The most common pathogen is "Streptococcus pyogenes", followed by "Staphylococcus aureus, Streptococcus pneumoniae" and anaerobes ("Bacteroides spp., Peptostreptococcus spp., Fusobacterium spp"). With the expansion of routine vaccination against "Haemophilus influenzae type b", there has been an extreme decrease in infections caused by this strain. A mixed bacterial flora is often present.

## Clinical picture

The clinical picture of RA is similar to acute epiglottitis. **Fever**, dysphagia, odynophagia, **salivation** and stridor predominate, but may not be present at an early stage. The voice may resemble a "hot potato in the mouth." A common symptom is a neck movement disorder (flexion, extension, torticollis disorders).

Other symptoms include headache, loss of appetite, vomiting, otalgia, adenopathy. The child often comes with a picture of sepsis of unclear etiology or with symptoms of "toxic" laryngitis.

**The limited neck mobility of a febrile or sick-looking child should therefore certainly be an impetus to consider a possible RA.**

## Diagnostics



prevertebral swelling of the soft tissues (arrow)

The diagnosis is made on the basis of clinical suspicion, physical examination and **CT of the neck with contrast**. A CT scan should be performed on all obscure inflammatory processes in the neck. The **asymmetry of the posterior pharyngeal wall** is essential. CT can also differentiate abscess from cellulite. UZV is not beneficial in this indication. With a confirmed diagnosis of RA, we routinely perform a **chest X -ray** to rule out aspiration pneumonia or mediastinitis.

## Complications

The danger of RA lies in airway **obstruction**, the spread of infection to the mediastinum with the development of **mediastinitis**, and the development of a **septic condition**. Other possible complications are aspiration pneumonia, epiglottitis, meningitis, necrotizing fasciitis, pericarditis, pyopneumothorax and others.

## Therapy

The basis of treatment is **surgical drainage**, administration of **broad-spectrum antibiotics** and monitoring of airway patency or their provision by tracheal intubation. It is a mistake to hesitate and delay the surgery, as a CT scan of a suspected abscess provides 10-15% false-positive or negative results. Therefore, we approach incision and drainage even with a negative CT finding, if the patient's clinical condition worsens or does not improve. The risk of the infection penetrating from one's own retropharyngeal space to other areas ("danger space", parapharynx, mediastinum) increases with unnecessary waiting with a surgical intervention. There is also a risk of fatal complications.

If no abscess is formed and there are signs of "only" cellulite, conservative therapy is sufficient. We choose antibiotics with sensitivity to gram-positive substances and anaerobes, ie clindamycin or potentiated aminopenicillins.

## Links

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