Laryngitis Acute

Acute laryngitis or subglottic laryngitis or pseudocroup (ICD-10: J04 (https://mkn10.uzis.cz/prohlizec/J04)) is swelling of the larynx in the subglottic area. It is usually of viral origin (parainfluenza, adenoviruses, RSV), but allergens can also apply. It occurs more often than acute epiglottitis and has a less dramatic course, appearing especially in the winter months (November–April). Children from infancy to about 6 years of age are most often affected, but exceptions are the rule.[1]

Clinical picture

It starts suddenly from full health or follows a catarrh of the upper respiratory tract. It most often appears at night in the form of paroxysmal inspiratory dyspnea with inspiratory stridor. It is accompanied by a typical barking cough. The child is restless, subfebrile and has a rough voice (raspy). Sometimes it also involves the jugular, intercostal spaces and epigastrium. In severe cases, cyanosis, restlessness and agitation appear. There are no difficulties in swallowing, and there is no pain in the throat either. The child is generally in good condition (with a low degree of dyspnea). Progression of the condition can occur within tens of minutes. The clinical status is evaluated according to Downes (0-10 points).[2] [3]

Downes score in acute subglottic laryngitis[4]

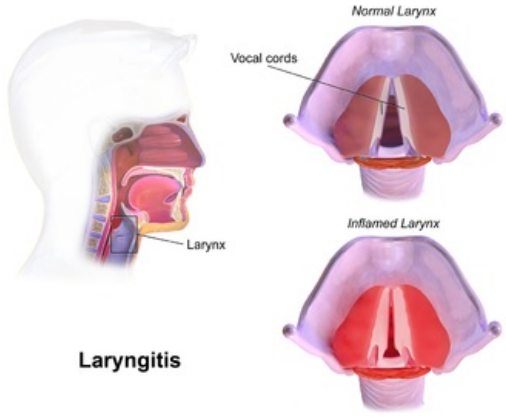
Symptom	0 points	1 point	2 points
Auscultation over lungs	normal	weakened, murmurs	silent
Stridor	not	inspiratory	both inspiratory and expiratory
Respiratory effort	breathing is free	retracts the jugular, has alar flexion	retracts all the soft parts of the chest, has an open mouth when breathing
Cough	not	harsh, unproductive	barking, dry
Cyanosis	not	while breathing air	even with FiO_2 > 0.4

- Downes score < 3 points – the child can be left in home care (cold moist air, fluids, mucolytics).
- Downes score 3 or more points - necessary hospitalization, transport by ambulance (dexamethasone p.o., i.m. or i.v., inhalation of adrenalineu).
- Downes score > 7 points – consider tracheal intubation under inhalation anesthesia[4].

Diagnosis

The key is to be able to promptly distinguish between acute laryngitis and acute epiglottitis.

	Acute Epiglottitis	Acute Laryngitis[5][6]
Average Age	3-4 years	6-36 months
Prodromes	–	cold
Cough	– / mild	barking
Feeding	no	yes
Mouth	drooling	closed
Toxicity	yes	no
Temperature	> 38.5 °C	< 38.5 °C
Stridor	gentle	gritty
Voice	weak / low	hoarse
Recurrences	no	yes



Laryngitis

Differentially, in addition to epiglottitis, it is necessary to rule out retropharyngeal abscess, bacterial laryngotracheitis, allergic or hereditary angioedema of the airways. Examination of the neck is performed by a quick aspect after compressing the root of the tongue with a spatula.[1]

Treatment

- Monitoring of vital functions (pulse, respiratory rate, BP, SaO_2);
- cold nebulization (mixture of gases with different FiO_2 that the child breathes);
- inhalation of adrenalineu (nebulized adrenaline) (5 mg in 5 ml 1/1 0.9% NaCl, the effect occurs after 10-30 minutes, lasts 60 minutes after inhalation);

- dexamethasone i.v. or i.m. (0.6 mg/kg *pro dosi*, the effect occurs within 120 min.)[4];
- prednisone per rectum;
- possible antitussives of the non-codeine type;
- sedatives contraindicated (risk of depression of the respiratory center), antihistamines (promethazine 1–2 mg/kg/24 h) can be used for sedation.

Guideline for the procedure according to the severity of the disease

Downes score < 3 points:

- outpatient procedure;
- inhalation of cold air (not EBM);
- dexamethasone 0.6 mg/kg p.o. or i.m..

Downes score 3–4 points

- hospitalization in a standard ward;
- cold nebulization of gases with FiO_2 approx. 0.3–0.4;
- dexamethasone 0.6 mg/kg p.o. or i.m..

Downes score 5-7 points

- hospitalization in ICU, provision of i.v. entry;
- cold nebulization of gases with FiO_2 approx. 0.3–0.4;
- dexamethasone 0.6 mg/kg i.v.;
- nebulization of adrenaline 1:1 000 in a dose of 5 ml, or 2 mg of nebulized budesonide;
- cautious sedation (midazolam).

Downes score > 7 points

- conservative therapy (see previous procedure) for 20 minutes, if the condition of tracheal intubation does not improve;
- with critical dyspnea, we intubate immediately, we follow the clinic, we cannot "wait" for hypoxia or hypercapnia;
- we intubate with a non-apneic technique during inhalation anesthesia, alternatively midazolam 0.2 mg/kg + ketamine 3 mg/kg i.v.;
- choose a tracheal tube without a cuff with a diameter 0.5–1 mm smaller than the tube diameter for the given age;
- after intubation we start standard UPV;
- we extubate at a time when there is significant air leakage around the ET cannula, usually within 48 hours.[1]

Follow-up measures

Laryngitis likes to recur, but each attack can be different in severity. In case of relapses, we investigate possible allergic component - "spasmodic croup". GER, the influence of adenoid vegetations. With > 3 recurrences of ASL or an atypical course, laryngotracheobronchoscopy is usually necessary.<ref name="Havranek" / >

Links

Related Articles

- Acute epiglottitis
- Acute obstructive laryngitis
- Upper respiratory tract infection

External links

- Template:Acute
- Acute laryngitis (voice and speech disease) (http://atlas.lf1.cuni.cz/ohr/akutni-laryngitis-1/)
- Chronic laryngitis (voice and speech disease) (http://atlas.lf1.cuni.cz/ohr/chronicka-laryngitis-3/)

References

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