

## "KD Ear Blow Sign" in Rabies

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### Abstract

In rabies patient on blowing on any ear, the respiratory muscle spasms is increased. This "KD EAR BLOW SIGN IN RABIES" is due to increase in humidity (examiners moist air blow) in the auditory canal which in turn sends impulses via those auditory nerves to temporal lobe thus stimulating reflex.

**Keywords:** Rabies; KD Ear Blow Sign; Hydrophobia

### Background

Hydrophobia is a clinical sign characteristic of human rabies. This sign occurs following paroxysmal contractions of pharynx responsible for hydrophobic spasms. Rabies can develop so quickly which can lead patients to die in just a few days.

Rabies will make the muscles paralyzed sooner or later. The pain that the sufferers feel when swallowing fluids, including saliva, is due to the inability of the muscles responsible to control swallowing.

### Case Report

A 52-year-old man in OPD presented as hydrophobia allowing us to suspect human rabies. Past history of dog bite 6 weeks prior with local wound care immediately after exposure and inadequate [1], only one dose of rabies postexposure vaccine by ID route after bite. He presented with fever, headache, sore throat, cough, nausea, vomiting, loss of appetite, excessive salivation with difficulty in swallowing, insomnia and pain in bitten area.

On examination, feeling confused and restless, more aggressive, muscle cramps, hyperactive and hyperventilation. During the physical examination, the patient was conscious and polypnea at 32 bpm and tachycardia at 110 pulses/min. The body temperature was 40°C, and the blood pressure was 108/80 mm Hg. He also complained of intense thirst, but any attempt of water intake caused hydrophobic spasm, described as a blockage in the throat with worsening of dyspnoea, and he systematically repelled the glass of water. On blowing of both (later, any ear) ears we found that the muscle spasms and the aggressiveness along with hyperactiveness increased tremendously. As this sign was once told by our Prof. K D GUPTA sir so we have coined it as the "KD EAR BLOW SIGN IN RABIES". That patient expired after 2 days and his rabies diagnosis was confirmed by direct fluorescent antibody test (DFAT) using post-mortem brain samples.

### Discussion

As we all know in rabies hydrophobia is very prominent and is pathognomic of rabies too. The pathophysiology of hydrophobia is well known. The temporal lobe with hypothalamus region of brain

got infected by the retrograde dissemination of rabies virus via peripheral nerves causes seizures, lethargy and later on (if involves) corticospinal tract causes paralysis [2,3].

It also causes an infiltration/ infection of the salivary glands since the saliva is the gateway to reproduction and eternity for the virus. An infection of the parotid and other salivary glands causes shooting pain when the glands are excited (by trying to drink or to eat). Drinking is worse than eating than respiring (rabies is also causing aerophobia) [4]. So, due to these shooting pain sensations, a rabid person avoids the trigger mechanisms, which are drinking and eating. Thus, with minimal seeing of water causes respiratory or deglutination muscle spasm reflex.

It is clear from our findings that with minimal blow to any ear causes increase in humidity (due to moist air from examiners mouth) in the auditory canal which in turn sends impulses via those auditory nerves to temporal lobe thus stimulating the reflex.

## Conclusion

"KD EAR BLOW SIGN" (in short "KD SIGN") in rabies by increasing humidity is a useful OPD sign which can be applied to any suspicious rabies patient before any other invasive investigations.

## Key Clinical Message

A very simple clinical sign which can diagnose rabies in out-patient day (OPD) care prior to admission. "KD ear blow sign" is a useful OPD sign to diagnose rabies on the spot.

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sign. Since both are no more now but still, we find the literature is devoid of this sign. Being a very useful sign in rabies cases for non-invasive diagnosis in OPD itself. This sign was previously discovered by Prof Dr K D Gupta Sir and then it is being well practiced by Prof H K das Gupta Sir.

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