

## **“An unusual tumor of the larynx: hibernoma of the para-glottic space ”**

**Marco Barbara** - R.Filipo, A.Minni, D.Vitolo

Hibernoma is unusual tumour of brown adipose tissue. Brown adipose tissue is common in mammalian hibernating animal and it acts as a thermogenic organ. A first case of hibernoma was reported in 1906 by Merkel. This tumour usually arises in the back, shoulder region, mediastinum, retroperitoneum and in the neck. The neck location of hibernomas is rare and only seventeen cases of cervical hibernoma are described.

We report a case of laryngeal hibernoma at paraglottic space. A 48 years old man with unremarkable medical history was admitted at ENT Department with a eight months hoarseness and soft voice, without dysphagia and dyspnea. Under general anesthesia, a direct microlaryngoscopy was performed, that showed the presence of a 2 cm tumour, nodular and soft, located in the submucosa of the subglottic and glottic region. The histopathological examination revealed a submucosal tumor consisting of neoplastic cells with large eosinophilic cytoplasm, regular nucleus with small nucleoli. These neoplastic cells were immunoreactive for S-100 protein and vimentin, being negative for cytokeratin and actin.

One, six and twelve months later the patient showed no recurrence, voice was good and stroboscopy showed normal vibration.

Usually, hibernoma is benign, subcutaneous, freely movable, non tender mass, ovoid in shape. It may produce symptoms by pressure and displacement. A malignant hibernoma it may exist.

Hibernomas occur in adults at fourth decade, more rarely in childhood, no difference by sex was observed. Tumour size ranged from 1 to 26 cm. Surgical treatment is the golden standard, and no recurrence was never been observed.

So far, to our knowledge, are reported only seventeen cases in the neck, one of them in the larynx at pre-epiglottic area. All presented as a cervical mass and were treated with surgery.

In order to explain the origin of hibernoma, two theories have been proposed. According to one of these, some islands of brown adipose tissue may persist into the white fat tissue; on the contrary, brown fat may be a development of the white adipose tissue.

Brown adipose tissue has never been detected in the larynx; nevertheless white fat tissue is present in preepiglottic and paraglottic space. Therefore it may be possible to find hibernoma in both these laryngeal subsites. The hibernoma hereby reported, located in a vocal fold, may be developed from the white fat tissue of the paraglottic space.

As consequence, this case can demonstrate the real development of brown fat tissue from white fat.