Intrathoracic Hibernoma*
Report of a Case

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The hibernoma is one of the more unusual benign fatty tumors which occurs in man. Its origin has always been a subject for conjecture. Some investigators hold that adipose tissue in mammals constitutes a specific organ, distinct from connective tissue; others feel that some multilocular or brown fat is a transitory phase in the development of adipose tissue. It may remain as a definite permanent structure, glandular in appearance and is called hibernoma. This tissue is known to be present in hibernating animals and in certain non-hibernating rodents. The exact function of this gland-like fatty tissue is not known, but its complete removal in the animal usually causes death.

In man, there is a collection of histologically similar tissue which is located in the region of the primitive jugular vein and was named the interscapular gland by Bonnot† and Hatai.† This gland is paired, located in the shoulder between the superior aspect of the clavicle and scapula. Brines and Johnson** have reviewed 16 cases of hibernoma and one of their own. Kittle and associates‡ have reported the removal of a large 1,000 gm. intrathoracic hibernoma attached to the posterolateral chest wall.

The histologic picture of these tumors is fairly constant. There are large clumps of ovoid cells separated by trabeculae into lobules. The cells contain cytoplasmic granules and a small dark central nucleus. In some of the larger cells, there may be complete occupation by a single large vacuole which on staining will indicate the presence of fat. Cramer§ has observed that the cytoplasmic granules increase in size and eventually coalesce to form a fat globule. This displaces the nucleus to one side. It is important to differentiate this tumor from liposarcoma, xanthoma and lipoma, since these are sometimes hibernomas incorrectly identified.

The case reported below was the result of the fortuitous finding of a hazy ovoid shadow in a routine chest film.

CASE REPORT

E.O., a 41-year-old white woman, was admitted to Andrews Air Force Base Hospital on April 25, 1963, because of a hazy ovoid mass seen in a posterolateral plain chest film. It was located

![Figure 1: Ovoid shaped lesion in right apex which was proved to be hibernoma.](image-url)
in the apex of the chest above and behind the right clavicle. She was completely asymptomatic. Laminograms two weeks previously had confirmed the presence of this mass which was approximately 4 cm. in diameter and located posteriorly (Fig. 1). Thoracotomy was performed on April 26, 1963. A small 4 cm. tumor was identified in the apex posteriorly. It was firm, fixed and covered by a parietal pleura. A linear incision was made over the tumor and it was shelled out. There were numerous vascular adhesions to the first intercostal bundle behind it which necessitated electrocoagulation. It was thought after removal to be a neurofibroma from its location and appearance. Upon section grossly, it was reddish-brown and rubbery. Frozen section was obtained and reported as benign tumor of nerve origin. Permanent sections revealed (Fig. 2) a benign tumor composed of eosinophilic vacuolated cells with small eccentric nuclei. These cells were separated by large fat stain-positive vacuoles. The diagnosis: benign hibernoma. The postoperative course was uneventful. There has been no tumor recurrence on follow-up examinations.

REFERENCES