CLINICAL ASPECTS AND SURGICAL TREATMENT OF TUMOURS OF THE MEDIASTINUM

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In compliance with data submitted by the Anti-Cancer Centre — Liege, out of 12675 cases recorded for the period 1949—1952, 70 patients or 0.55% are with benign or malignant mediastinal neoplasms (5). Crauford states that one third to one fourth of thoracotomies are underta ken on account of mediastinal tumours (3). Benign mediastinal tumours, lending favourably to operative management, are of particular interest for the surgeon.

The clinical aspects of mediastinal tumours are related, by most of the authors, to their localization within the mediastinum. Thus, para- and retrosternal pains, venous and arterial disturbances are characteristic for the tumours of the anterior mediastinum; tumours of the middle mediastinum are manifested by respiratory and dysphagia disorders whereas posterior mediastinal tumours are characterized by severe pains and dysphagia complaints (Bariety). According to personal observations on malignant mediastinal tumours, it is stated that regardless of their localization, they are characterized by early development of venous compressive syndrome, initially manifested by cyanosis and edema of the face and subsequently — by dilated veins of the head, neck and upper limbs and hemorrhages of the conjunctivae. This is explained with the infiltrative growth of malignant tumours, whereas, even in large benign neoplasms similar complaints are not observed.

Over a period of five years, a series of 10 patients underwent treatment at the surgical department of the District Hospital — Varna. Four of them were with malignant and 6 — with benign mediastinal tumours, illustrated in table No 1.

In the patients reviewed with malignant mediastinal tumours, the initial complaints begin with cyanosis of the face and in the following two or three weeks, edema is developed with dilatation of the head, neck and upper limbs' veins. Merely in one case the edema preceded cyanosis with about 4—5 days. The venous syndrome in these patients exhibits a rapid progress and they were admitted between the 15th and 30th day of the onset of their complaints, already with a massive shadow of the neoplasm within the mediastinum and pronounced proneness for infiltrating adjacent organs, revealed on the X-ray investigation. Phlebotonometry of the cubital vein was resorted to for ascertaining the degree of severeness of the venous syndrome and in all instances an acute rise of venous pressure, from 250 to 510 mm water column, was established. In three of the patients a simultaneous and bilateral (left and right cubital veins) phlebotonometry was performed, and in all instances higher values of venous pressure were dis-

covered within the pool of the left brachiocephalic vein; the difference found is estimated as a sign of the venous syndrome, characteristic for the malignant tumour of the mediastinum (Petkov). The mediastinal phlebography applied thereafter, supported the above findings, proving a slower draining of contrast matter from the left brachiocephalic vein. Mediastinal phlebography was introduced by Gvozdanovic and Oberhofer — 1953. Novikov and associates further improved the technique of mediastinal phlebography, synchronizing the pressure of introduction of the contrast medium, simultaneously into the cubital vein of both hands by means of a system of „Y"-shaped chlorvynil tubings. However, mediastinal phlebography has not been widely accepted in clinical practice heretofore. The latter fact is explained by the lack of enough experience, relative complexity and the hazard that a significant part of the contrast might penetrate the brain.

In the series of the authors, comprising patients with malignant tumours, the pain complaints, manifested by a sense of heaviness or blunt pain retrosternally and in deepness, appear after the venous syndrome and still later — pronounced dysphagia and respiratory disturbances. Merely in one patient the respiratory impairment, manifested by severe asthma and compelling him to sleep seated, appears almost simultaneously with the venous disorders. In these patients conservative treatment is resorted to, including deep-roentgen ray treatment, with temporary improvement.

In conclusion, it is stated on the ground of literature data and personal observations as well that the complex syntopic interrelationships between the organs of the mediastinum on one part, and the latent period on the other, consistently hinder the diagnosis and radical operative treatment of malignant mediastinal tumours. Therefore, conservative treatment, roentgenotherapy and cytostatics in particular appear to be the only therapeutical means in similar cases.

As regards more frequently met benign tumours of the mediastinum (5 patients of the authors's series), the operative treatment adopted led to permanent healing and in one patient accounted for temporary improvement; in fact, in the latter case (observation 10) the interrelationships within the retrosternally grown vascular goiter were altered, resulting in compression of the trachea, penetrating and partially sprouting in between the organs of the mediastinum; on the other hand, the parenchyma of the struma bleeded profusely at the slightest trauma, rendering its removal impossible technicalwise and therefore a relieving resection of the sternum was the only alternative. The symptoms of the venous syndrome were not established in any of the patients with benign mediastinal tumour; the most frequent findings with them were respiratory complaints, manifested by dry cough, intermittent pains during respirations, in the majority of cases corresponding to the new-growth locality. In four patients cystic tumours were concerned — two were with epidermoid cysts and the remainder — with echinococcus cysts. Of the latter, one was situated within the concavity of the arch of the aorta and the other originated from the cardiac muscle. The echinococcus cysts are classified among the other mediastinal tumours on account of the fact that clinically and objectively they are represented by a true neoplastic formation. The great rarity of echinococcus cysts in the mediastinum is impressing for some

countries; thus, from a statistical study carried out by 45 authors on 3033 operated patients with mediastinal tumours, it appears that only 19 cases or 0,6% were with echinococcus cyst. Echinococcus cysts of the mediastinum are not a very rare finding in Bulgaria, as evident by the personal

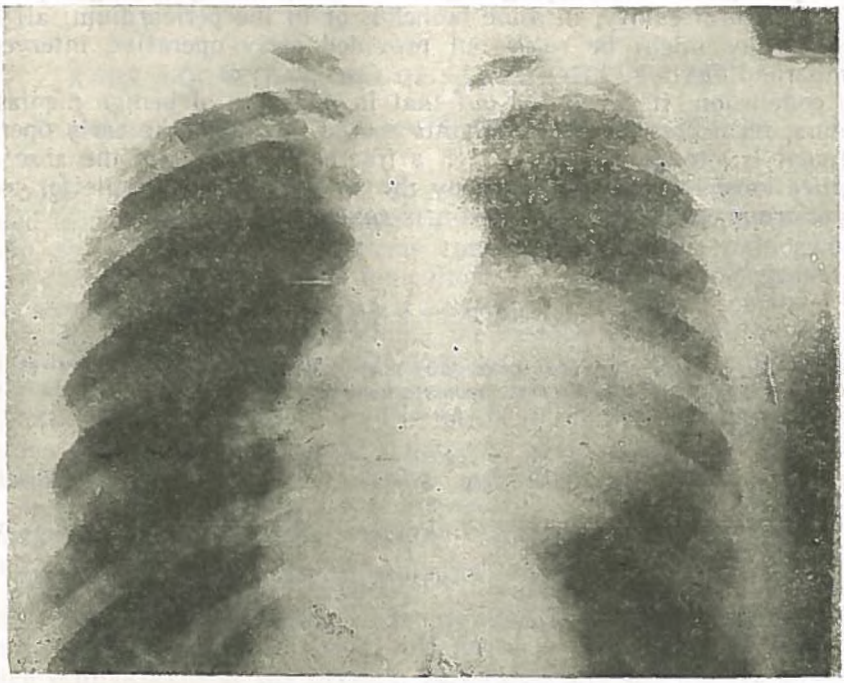

Fig. 1

review herein reported and by the observations made by Sedloev, Peshev and Milev. The echinococcus cysts are usually single; without daughter cysts, mostly situated in the anterior, rarely — in the posterior and exclusively seldom — in the middle mediastinum. Of all paraclinical examinations, the most reliable appears to be the X-ray investigations which demonstrate well rounded, without pulsations shadows, with a pronounced tendency for localization in the direction of the pleural cavity. The latter statement is particularly characteristic either for parasitic and non-parasitic cysts of the mediastinum (see fig. No 1, roentgenography of case report 5 with mediastinal epidermoid cyst).

Irrespective of the fact that benign mediastinal tumours occasionally run asymptomatic or scanty symptomatic course, as dry cough, tolerable pains in the mediastinum or slight dyspnea, they usually do not affect the general state of the patients. Very often, they are detected during casual X-ray examination for vague complaints. Such patients should be promptly advised for operative removal of the neoplasm, due to the fact that a variety of complications might ensue, rendering more difficult the surgical intervention, as in case 10. Thus, the growth of non-cystic tumours

might bring about degenerative changes or else disintegration of the tumorous tissue with all consequences, or, in rare cases — to malignant degeneration. The cystic tumours might easily get infected via hematogenous pathways thus intensifying the compression phenomena and leading to a septic picture of varying degree. Or else, the cysts might perforate into the pleural cavity, in some bronchus or in the pericardium: all listed complications might be ruled out provided early operative intervention is embarked on.

In conclusion, it is pointed out that in instances of benign mediastinal tumours, regardless of the complaints caused by them, the early operative treatment is strongly advised. Such a treatment policy (in the absence of complications) is easily tolerated by the patients and is simple for technical performance insofar the surgeon is concerned.

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К КЛИНИКЕ И ХИРУРГИЧЕСКОМУ ЛЕЧЕНИЮ ОПУХОЛЕЙ СРЕДОСТЕНИЯ

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РЕЗЮМЕ

Авторы подчеркивают, что сложные синтопические взаимоотношения между жизненно важными органами в средостении, а также и лятентное протекание злокачественных медиастинальных опухолей, значительно затрудняют их раннее диагносцирование и радикальное оперативное лечение. Пока они остаются объектом консервативного лечения цитостатиками и рентгенотерапии.

Относительно чаще встречаемые доброкачественные опухоли средостения, авторы считают, что представляют собой объект единственно для оперативного удаления опухоли в возможно самый ранний срок, во избежание осложнений, которые могут наступить вследствие дегенеративных изменений или инфекции, что затруднит радикальное оперативное лечение.