Pleuro-Pneumonectomy in the Treatment of Tuberculous Empyema

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The treatment of tuberculous empyema still remains a major therapeutic problem in tuberculosis. In recent years, the use of antibiotics and pleural lavages have undoubtedly improved the prognosis of uncomplicated tuberculous empyemata; however, when a broncho-pleural fistula with subsequent mixed infection empyema is present, major thoracic intervention will still be the only way to obtain a complete cure.

Lately this treatment consisted in draining the pleural cavity with a subsequent thoracoplasty, which most of the time had to be completed by a resection of the parietal pleura and one or more plastic operations. Even in the successful cases this long and painful surgical treatment finally leaves a greatly deformed and crippled patient.

In this short note we shall not consider the technical side of this problem on which Daems (thoracic surgeon) will report shortly. We also refer to De Winter's report on 1,137 cases of tuberculosis treated by thoracoplasty. An analysis of the experience of several authors shows the high mortality rate of these multiple surgical interventions, which most of the time have to be carried out on patients in bad physical condition.

At the Hopital St. Jean in Bruges, 58 cases of broncho-pleural fistula with mixed empyema have been surgically treated with drainage, thoracoplasty and pleurectomy between January 1, 1945 and January 1, 1950. The results are as follows:

Deaths ........................................ 38 (65 per cent)
Incompletely cured ............................... 5 (10 per cent)
Completely cured ............................... 15 (25 per cent)

These results are similar to those obtained by most of the authors who have reported on that subject. The great mortality rate in this operation is mainly due to postoperative shock. A few died because of toxaemia, generalized amyloidosis and of tuberculous spread to the contralateral lung.

Of the five cases incompletely cured, the failure was due in three to the persistence of a tuberculous sinus; in one to a contralateral tuberculous spread and in one to paralysis subsequent

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to myelitis which occurred after the surgical treatment. Those who are now completely cured remained in hospital for eight to 10 months on the average.

Considering the fact that after the failure of conservative treatment, all these cases were irreparably lost, we may consider even the meagre results obtained by surgical collapse therapy as satisfactory. It remains an inadequate procedure however.

It is therefore not astonishing that after the successes of excisional surgery in pulmonary tuberculosis some surgeons have been tempted by the idea of accomplishing the removal "en bloc" of the diseased lung and the infected pleural sack. Experience in this field is not yet widespread, but the first results obtained with pleuropneumonectomy by Sarrot, Overholt, Santy, indicate that with this less mutilating procedure the chances of final healing are much higher, and can be obtained more rapidly.

Since 1948, 12 cases of infected tuberculous empyemata, of which 11 had a bronchopleural fistula were treated by pleuropneumonectomy in the Hopital St. Jean, Bruges. Moreover one patient had a parietal fistula and three had tuberculous lesions in the other lung.

All these operations have been performed under high spinal anesthesia. Immediately before operation the pleural sack is emptied under endoscopic control. The parietal pleura and the lung are dissected in the extrapleural plane to lessen the risk of cutting into the pleural sack or the diseased lung parenchyma.

It is however not always technically possible to perform the extrapleural dissection without tearing the parietal pleura. Sometimes the parietal pleura is so adherent to the parietal tissues that the surgeon is forced to tear the pleura into shreds. No post-operative empyema developed in these cases, despite the fact that the extrapleural space was contaminated during the operation. Up to now the results are as follows:

Pleuro-pneumonectomy, 12; deaths, 4: One because of post-operative gastric dilatation (case with parietal fistula). One because of contralateral spread (in spite of the induction of an artificial pneumothorax). One developed tuberculous meningitis three months after operation (case with bilateral tuberculosis). One died eight months after the operation because of a thoracoplasty performed for empyema of the extrapleural space (bronchial fistula).

Incompletely healed, 1: This patient developed a small bronchial fistula which healed spontaneously (case with contralateral disease controlled by pneumothorax).

Completely healed, 7 (between two years and six months). None developed empyema after the operation. Only two patients had
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thoracoplasty performed after pleuro-pneumonectomy. The posterior thoracoplasty was performed at the same time as the pleuropulmonary resection.

This first experience with pleuro-pneumonectomy in the treatment of infected tuberculous empyemata complicated with bronchopulmonary fistula is yet too recent to be conclusive. However, the results obtained up to now are very encouraging, as the number of successes have gone up from 25 per cent with surgical collapse therapy to 65 per cent with pleuro-pneumonectomy.

These figures will still improve when the patients, freed from the fear of a long, dangerous and finally mutilating operation will be brought to the surgeon as soon as the failure of a conservative treatment is stated.

It is our opinion that pleuro-pneumonectomy must now be considered as the operation of choice in the treatment of tuberculous empyemata with broncho-pleural fistula, and in cases without bronchial fistula rebellious to any medical treatment.

The sufferings and the misery of surgical collapse therapy must only be reserved to the cases where removal of the diseased lung with the infected caseous parietal pleura is technically impossible.

SUMMARY

A comparative study of the results obtained with surgical collapse therapy and with pleuro-pneumonectomy in the treatment of infected tuberculous empyemata with or without broncho-pleural fistula, shows that the latter method must now be advocated as the most adequate treatment for these tuberculous conditions.

RESUMEN

Un estudio comparativo de los resultados obtenidos con el colapso quirúrgico y con la pleuro-neumonectomía en el tratamiento de los empiemas tuberculosos con o sin fistula bronquial muestra que el segundo método debe ahora ser el recomendado para el tratamiento mas adecuado de estas afecciones tuberculosas.

RESUME

Les auteurs comparent le résultat obtenu par la colapsothérapie chirurgicale et par la pleuro-pneumonectomie dans le traitement des pleurésies purulentes tuberculeuses avec ou sans fistule bronchique. Cette étude montre que la pleuro-pneumonectomie est actuellement le traitement qui convient le mieux à cette forme de tuberculose.

REFERENCE

1 DeWinter, L.: "1,137 cas de tuberculose pulmonaire traités par thoracoplastie," Acta Tuberculosea Belgica nr. spec. 2 leme partie 1949.