THE OPERATIVE TREATMENT OF TUBERCULOUS GLANDS OF THE NECK

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Since the cause of tuberculosis was first diagnosed, new methods have constantly been evolved, either to fight the disease directly or to diminish the danger of infection. During the last few decades improved methods of diagnosis and the discovery of specific anti-tubercolosis drugs have provided better weapons in the fight against this widespread disease. A further and most important advance is the combination of conservative (medical) and operative treatment. Since so much has been published in this respect, I feel that it is unnecessary to go into any further detail.

In this article I wish to report only on a series of cases presenting with swelling of the cervical lymph nodes, thought to be of tuberculous origin. It must not be assumed that I regard tuberculosis merely as a local disease; it is well known that very often tuberculous infection of lymph glands occurs secondarily to pulmonary and/or organ tuberculosis following haematogenous spread. However, primary infection of glands with tuberculosis is frequently found; it is mainly of the bovine type (from milk) entering through lacerations of the mucous membrane of the mouth and pharynx.

The following is a report on 228 cases of cervical-gland swellings considered to be tuberculous in nature, all of them

treated conservatively (medically) for some time, with little or no improvement. These patients were both male and female, aged between 1½ and 55 years.

In 10% of these cases the infection of the submental, submandibular or retro-auricular glands was considered to be primary, located unilaterally as solitary or multiple nodes. All patients whose glands were bigger than a cherry were operated upon. What appears, clinically, to be a rather small superficial tumefaction, often proves to be a much larger gland at operation. It has been found from experience that when an enlarged lymph gland is visible under the skin, surgical treatment is indicated. Examination and final judgment are difficult in cases where glands are embedded deep in or under soft tissues.

In 9·5% the operation was performed because of already existing fistulas or tuberculosis cutis colliquativa. The rest of the patients showed secondary infection of cervical glands from an organ tuberculosis—either in the active or the quiescent stage.

In all cases, before surgery was resorted to, an attempt was made to confirm the diagnosis by X-ray and laboratory examinations. Where these examinations failed to help, the histological analysis of a biopsy specimen definitely aided the diagnosis.

The decision to operate was made only on the basis of careful observation of the development of the disease. In children, especially, 'cure' can apparently be achieved by conservative treatment alone. This is usually a very prolonged procedure and it is questionable whether the cure is complete, i.e. whether repression of the disease does not occur, only to flare up at a later date.

Frequently, patients who could be discharged from hospital as cured, where the pulmonary infection is concerned, have to undergo prolonged treatment—even as inpatients—for delayed healing of the lymph-gland involvement.

It has been observed that, in some cases of primary pulmonary infection with secondary lymph-gland involvement, the two processes heal concurrently as a result of medical treatment with specific anti-tuberculous drugs.

On the other hand, it has been seen that, after healing of the primary pulmonary process, the lymph-node infection appears to persist. The reason for this appears to be that in a caseating gland the normal histology is destroyed, and thus the ability for regeneration is lost. The drug concentration in the gland may be perfectly adequate, yet there is no cure.

Similarly, it is possible that a primary infection in the lymph glands, which is not cured by conservative treatment, can be the cause of secondary spread and infection throughout the whole body.

Frequently the erythrocyte sedimentation rate and differential white-cell count in such cases have returned to normal or near normal, yet the focus in the gland constitutes a real danger. Drugs have to be continued in high concentration to obviate the danger of bacterial resistance and/or a flare-up of the disease.

THE OPERATION

After the usual premedication, 97% of all operations were performed under local anaesthesia. The incisions were made along the skin creases of the neck if possible. Where fistulas or tuberculosis cutis colliquativa existed, the incisions were placed in healthy skin areas, always bearing in mind that sufficient mobilization of the skin had to be secured to close the wound by primary suture.

The lymph glands were enucleated after careful partially blunt dissection, preferably *en bloc*—i.e. including all smaller, visible or palpable glands, since any one gland in a chain, if left behind, might be the origin of a relapse in later years. In an inflamed area, consisting of adhesions and fistulas, the normal anatomy is vastly changed. In the cervical region there are a few most important structures, viz. the subclavian artery, the common, internal and external carotid arteries, the jugular veins, and the accessory and facial nerves. Owing to the presence of these structures, destruction of the usual anatomical landmarks from infection makes operating in this area a potentially dangerous procedure.

During operation haemostasis was secured, preferably by electro-coagulation, and sometimes dissection was performed with the cutting cautery. Frequently, after the effect of adrenaline was lost (as so often happens with local anaesthesia), a capillary ooze started filling the cavities, left by the enucleated glands, with blood. To prevent, or even completely avoid such haemorrhage, absorbable haemostatic gauze was found very helpful. It was found that the subcutaneous haemorrhages (capillary oozing) left indurations in the tissue which marred the cosmetic result postoperatively.

All newly admitted patients received medical treatment with streptomycin and 'neoteben' (Bayer) pre-operatively for at least 14 days—patients in poor general condition were given micro-transfusions in addition.

In cases where there was already a fistula, or where a gland broke down during the operation, 1 G. of streptomycin powder was placed in the wound before closure; otherwise no local streptomycin was used. In cases where the gland infection was believed to be secondary to pulmonary infection (and the latter considered healed) postoperative treatment with neoteben was continued over 12 - 16 weeks; 4 - 6 weeks as an inpatient, the rest on an outpatient basis, provided the patient appeared reliable enough to take the tablets regularly. Naturally, patients are followed-up for several years, if necessary.

In all the operations performed, there were no serious vascular or nervous sequaelae, and no deaths, although approximately 10% of the patients arrived in a rather neglected condition.

DISCUSSION

In 3·5% there were relapses, but it is difficult to know whether these were true relapses or whether re-infection occurred because small lymph nodes were overlooked at operation.

All the 228 cases were histologically analysed with the following findings: Lymphogranulomatosis 2, syphilis 1, ranula (cyst) 1, uncertain diagnosis 2, and tuberculosis 222.

The literature supports my opinion that, besides conservative treatment, surgical treatment at the right time can protect these patients from a relapse. It is well known that, in a high percentage of cases, even with adequate medical treatment, fistulas or abscesses develop.

Mancorps and Kalkhoff hold the view that 1 in 3 cases of lupus vulgaris are caused by superficial lymph-gland infection, but that 1 in 12 tuberculous gland infections are caused by lupus vulgaris.

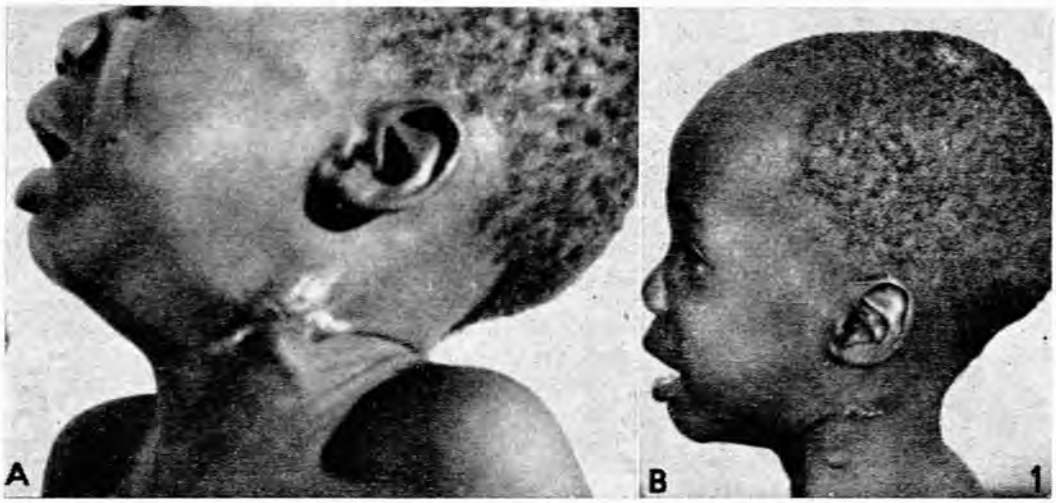

Fig. 1. A. Damara child, aged 18 months, with unilateral tuberculosis cutis colliquativa. The whole area was cicatrized and inflamed, and the demarcation of encapsulated glands lost. At operation, a horizontal incision was made and the diseased tissue was superficially excised as far as mobilization allowed. All the affected tissue under the skin was removed, but not all the superficial tissue (particularly towards the ear) could be removed, since there would have been too much shrinkage.
B. Healing by primary intention after 14 days.

Fig. 2. A. Adult woman, aged about 45 years, with bilateral cervical glandular swellings, who had been treated for pulmonary tuberculosis, during which time the lymph glands had remained unaffected. *B.* Three weeks after operation. Wound healed by primary intention. Discharged 6 weeks after operation. General condition improved.

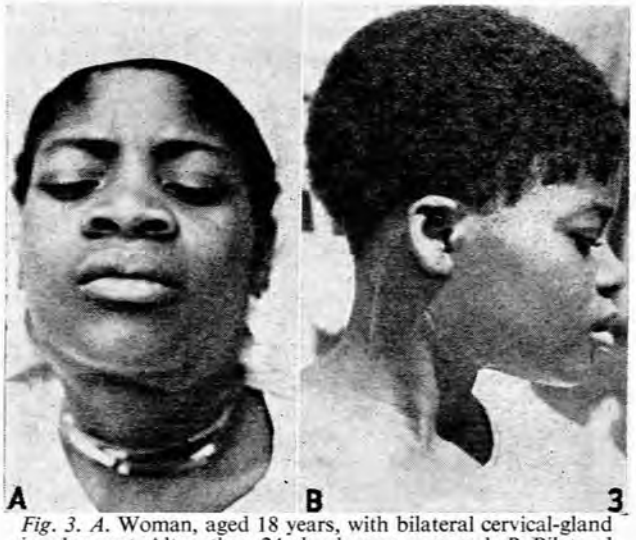

Fig. 3. A. Woman, aged 18 years, with bilateral cervical-gland involvement. Altogether, 24 glands were removed. *B.* Bilateral horizontal incisions performed (that on right shown here). Wounds healed by primary intention after 3 weeks.

Fig. 4. A. A child, about 3 years of age, with bilateral cervical lymph-gland swelling. *B.* Follow-up, 6 weeks later.

A comparison between conservative and operative treatment shows that operative treatment saves the patient time and money, fistulas are closed in a far shorter time, and the development of new fistulas can be prevented, thus minimizing the spread of infection.

In the fight against tuberculosis, treatment and prophylaxis are mainly a social problem. Considering how many patients have to wait for admission because beds are occupied by chronic cases, the advantage of a quicker therapeutic method is obvious. Faster recovery, moreover, means that the patient is restored to normal working conditions—with subsequent improvement in economic conditions—far sooner.

Finally, the effect of prolonged treatment (despite the use of modern antibiotics) on every tuberculous patient is to expose him or her to severe mental and psychological strain and even resentment. This could be avoided by active surgical

intervention. In this case the patient is stimulated by the knowledge that something is being undertaken, and, of course, the period of treatment is shortened. The psychological stimulus received in this way is a very real and effective part of the therapy, the importance of which should not be underestimated.

Figs. 1 - 4 show the results of operative treatment in 4 patients.

SUMMARY

The results of surgical treatment of a series of 222 cases of tuberculous glands of the neck are analysed. The following conclusions are drawn:

1. By combining surgical and conservative treatment, good results were obtained.
2. The period of stay in hospital was much shorter.
3. The psychological effect achieved by active surgical treatment is an important factor in the prolonged treatment of the tuberculous patient.

I wish to thank the Superintendent of the State Hospital, Windhoek, for permission to publish the results of this investigation.