TREATMENT OF TUBERCULOUS KNEES BY THE CAUTERY.

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TUBERCULOUS knee-joints are not seen so frequently as they were thirty years ago; this is no doubt due to the advance of science and to better housing, sanitation, open spaces in crowded cities, better choice of food, and plenty of fresh air and sunlight. But still the disease does exist, and will do so for many years to come.

In the early days tuberculous joints were blistered, strapped with mercurial ointment, and partly rested, with very indifferent results. In these later days such joints are mostly kept at rest, extension being applied for long periods; many excellent results follow, but the treatment has to be continued for a very long period. It is to expedite the cure of these cases that I venture to advocate the cautery, which is occasionally mentioned in textbooks, though I have never seen its application described.

One of the greatest advocates of this mode of treatment was Professor Syme of Edinburgh. In his observations on clinical surgery, which were published in 1861, he mentioned the extraordinary and apparently almost magical effect which is produced in certain forms of articular disease by the actual cautery; this form of treatment had been introduced into Great Britain little more than thirty years previously for the purpose of counter-irritation, and is one of the most valuable curative means employed in the practice of surgery. Syme took every opportunity of emphasizing the advantage derived from its employment, but for many years his efforts produced little effect, and the proposal was often scouted as no less shocking to humanity than degrading to the profession. He describes a case of strumous knee, and adds that in such cases the actual cautery, if properly applied before suppuration has taken place, may be regarded as very nearly, if not absolutely, a certain remedy. We have, however, no description of his method of applying it, and he was operating before the days of aseptic or even antiseptic surgery. I have been using the actual cautery for the cure of tuberculous knees for a period starting in 1890; my list comprises eight patients, both knee-joints being involved in two cases.

The typical case to choose is one in which the synovial membrane is chiefly involved, there being a pulpy thickened swelling, with perhaps some fluid, lateral luxation, limited movement forwards and backwards, and pain; there must be no grating or evidence of bone implication. In other words, the earlier the case is taken in hand the more certain is the chance of permanent cure with perfect movement.

The operation is simple. Three incisions are made with the cautery on either side of the knee from before backwards; one below the level of the knee-cap, one in a line with the middle of the knee-cap, and one above, on each side of the knee. The incisions must not meet in the middle line of the knee either before or behind. The cautery must completely divide the skin and must expose the fat; at this point the incisions gape laterally, and burning of the fat is evidenced by the smell. The application of sterile gauze wrung out in hot sodium carbonate solution (1 drachm to the pint) takes all the pain away, and, covered with wool, is an excellent dressing until all the scabs have peeled off, which takes about ten days.

The wounds are dressed daily until all the scabs have disappeared, when zinc and red precipitate ointment can be applied on alternate days. After ten days the knee is gently bent once a day. A back splint is useful during the first fortnight, after which the joint is allowed to move, resting on a pillow. The wounds heal in about six weeks.

It is surprising how soon the swelling subsides and the joint becomes of normal size. The patient is able to walk without support in about twelve weeks; the slight support of a bandage may be utilized, but it is not really necessary. The result is the production of six silk-like scars and a very thin knee, with perfect movement.

I have a series of ten knees dating from 1887 to the present time; in eight a complete cure resulted, but in

the other two I had to amputate. The two cases needing amputation were badly chosen for cautery treatment, as it was found that the ends of the bones were seriously affected, which is a contraindication. After amputation both patients did well.

Case 1.—My first patient was a girl, aged about 18 years, who had both knees affected. In 1887 I began to treat her with rest, back splints, strapping with compound mercury ointment, and blisters, with periods of resting from treatment, except for a back splint. In 1890 Mr. Jacobson of Guy's Hospital advised the use of the cautery before proceeding to excision; it was accordingly applied to both knees under chloroform in April, June, and August of that year, and as the symptoms had not sufficiently abated it was employed for the last time in June, 1891. The reason for the repetition of the applications was that the cautery incisions were not taken through the skin, as was done the last time. Then came a long period of healing and absolute rest, with the result that by the end of that year she was walking again, and her improvement continued steadily. Thirteen years afterwards Mr. Jacobson reported as follows:

"I have to-day, May 12th, 1903, seen the patient. The cure after this long interval is sound and complete. There is not a trace of thickening or abnormality about the synovial membranes, the movements of the joints are smooth and complete, and the cautery scars are quite sound, thin, and supple."

Case 2.—This patient was a boy, aged 4½ years, who, after being treated in several hospitals, came under my care in 1902; his knee was swollen and pulpy, giving the false impression of fluid in the joint. I applied the cautery, the operation being attended with a great deal of shock, an injection of strychnine being necessary, and for a few minutes a pause in operating; the case was subsequently uneventful; the wounds healed, and the patient left the hospital in a Bavarian splint. He has since passed into the marines, in which he served for several years, and is in perfect health at the present time.

Case 3.—A girl, aged 16, who had chronic swelling of one knee with pain and limitation of movement, came under my care in 1906. She was treated for two years with rest and strapping, etc. The cautery was then applied, and the patient was up and about exactly six weeks later. She has since played tennis for her county, and is perfectly well to-day.

Case 4.—In this case the patient was a woman aged 30. The cautery was applied in 1916. The wounds healed uneventfully in eight weeks, and the knee became perfect. The illustration (Fig. 1) shows the condition six months after the operation. The vein enlargement is due to pregnancy.

Case 5.—This patient, a woman aged about 22, was seen in 1916. Splints and strapping were used for some months, then the cautery was applied, and the wounds healed uneventfully with excellent results.

Case 6.—The patient was a woman, aged 24, with a history of swollen knees for two years. When seen in July, 1929, she had fluid in both knees, much thickening, lateral luxation, some pain, and limited flexion. One knee was cauterized in July, the other about four weeks later; both healed with perfect movement by November 14th. In the illustration (Fig. 2) is indicated the range of movement, as well as the position of the scars.

These cases, with the two previously quoted which required amputation, make eight patients with ten knees treated. With the later experience of avoiding those cases in which the bone is affected, I think the history of these patients is worth considering, since it indicates a quicker way of curing these very slow and troublesome cases.

FIG. 1.

FIG. 2.