THE USE OF RADIUM IN A CASE OF RODENT ULCER.

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In connexion with the cases of rodent ulcer treated with radium, which were recorded in the British Medical Journal of January 23rd, the following notes may be of interest:

My patient was an old gentleman of 85 years. The trouble first started three years ago as a small nodule on the right side of the face, over the maximum point of the second division of the fifth nerve. His sister diagnosed a pimple and promply squeezed it. As might be expected, despite this treatment ulceration commenced and began to spread. Some valuable time was lost by the patient falling a victim to the enticingly-worded advertisements which promise a cure for skin troubles, trying, as he did, everything. from violet leaves to cuticura soap. When my partner first saw the case, although the ulcer was even then quite small, the patient absolutely refused to have it excised. The case came under my care some eighteen months later. Although the ulcer had by this time spread to the size of the top of a teacup, it was still limited to the area supplied by the second division of the fifth. Even at the present time, while it is ulcerating deeply along the nasal process of the superior maxillary bone, it remains within this boundary. It is thus an example of Mr. Cheatle's hypothesis of a nervous influence directing the spread of cutaneous cancer.[1] The question of using Roentgen rays was discussed, but as so feeble and aged a man could not travel, and as at that time we had no portable coil, the idea had to be abandoned. The advent of radium, by removing these difficulties, gave the patient another chance, for, although he was failing more from old age than from the rodent ulcer, I thought it worth while to try the effect of radium bromide. A small tube of 5 milligrams was purchased. In the absence of any guiding standard, I commenced by giving an exposure daily of 15 minutes, holding the tube within half an inch of the ulcer, without any screen, and slowly moving it over the surface. After four or five days, although there were no visible effects, the patient said the pain was less troublesome, so I increased the exposure to twice a day, with the result that the discharge, which had been considerable, rapidly became less, and the granulations were certainly more healthy, but the edges of the ulcer remained unaffected. The treatment was persisted in for some six weeks, during which time the patient's general health failed very rapidly. Finally he absolutely refused to be bothered with any treatment at all. That was about a month ago. Since then the ulcer has spread deeply, the pain increased, and the discharge returned, which is certainly an indication that even in such a desperate case as this the radium had a distinctly beneficial effect.

In connexion with E. S. London's experiments with the effect of radium on mice, showing that they get blinking of the eyes by the third day, it is interesting to note that the nurse who applied the radium for me after two or three weeks complained very much of smarting and aching of her eyes. This was, however, soon relieved by a small screen, which prevented the radiations from reaching her.

RODENT CANCER TREATED WITH *X* RAYS.

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C. W., aged 51, a resident in South Africa, was recommended for treatment by Dr. Mackay, of Southport.

History.

Has always been a strong healthy woman. No history of syphilis. Twelve or thirteen years ago a "pimple" appeared on her left cheek, near the nose and one inch below the inner canthus. As it gave her no pain or inconvenience, she took no notice of it. Three years afterwards the pimple began to ulcerate and was treated with plasters, applied by an irregular practitioner. Ulceration proceeded until ultimately the soft parts of the nose were destroyed. Two years ago a lump appeared on the right cheek.

Present Condition.

The patient is a strong square-set woman. The soft parts of her nose are destroyed, except a small piece of the right ala, leaving the nasal cavities widely exposed. The septum is intact, but its free margin is unhealthy-looking. For the most part surrounding

[1] British Medical Journal, 1903, vol. ii, p. 1515.

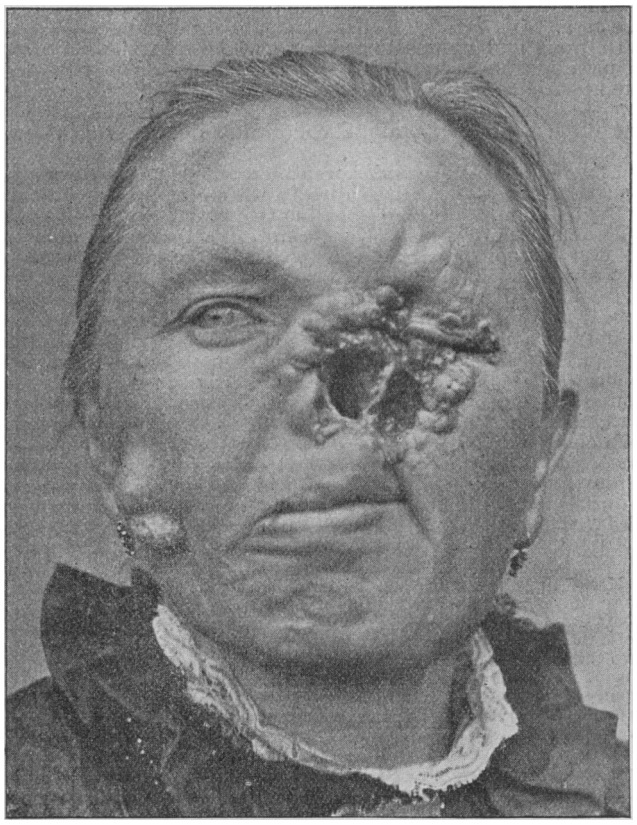

Fig. 1.—Before treatment (full face).

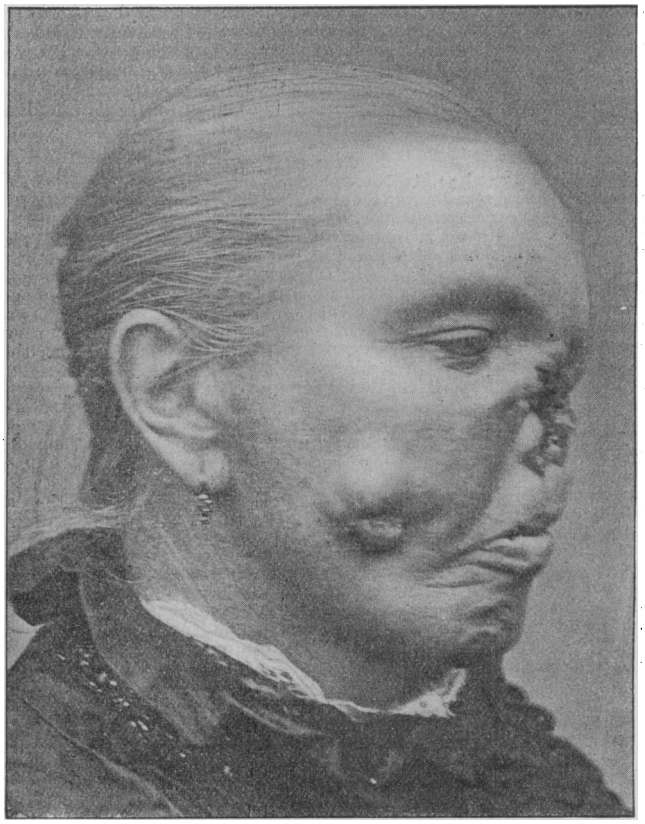

Fig. 2.—Before treatment (side view).

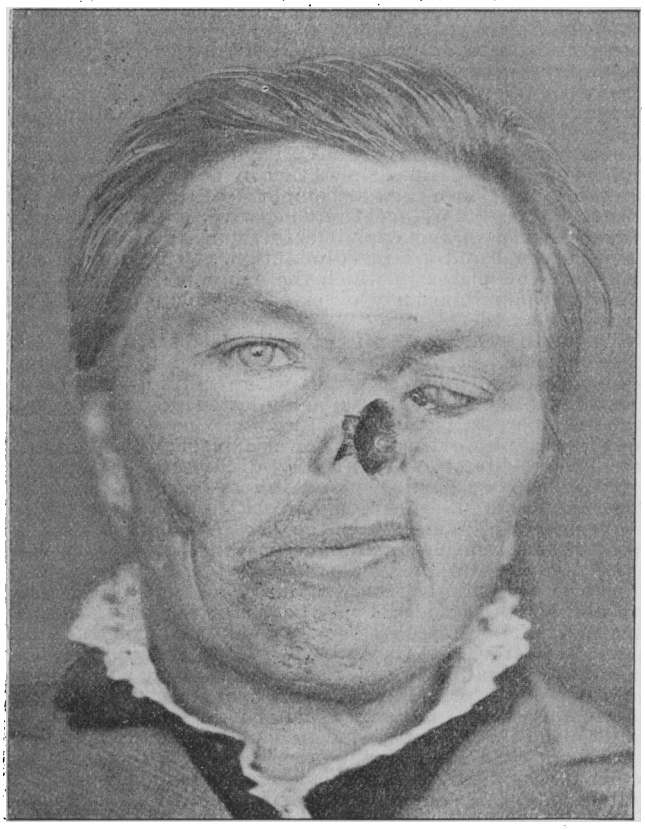

Fig. 3.—After treatment.

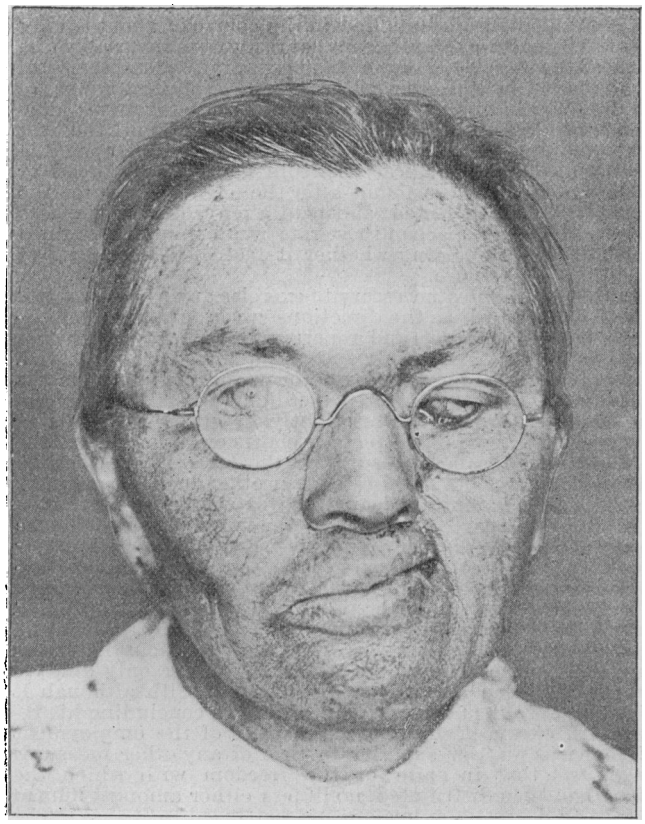

Fig. 4.—After treatment.

the nasal apertures and extending upwards between the orbits, and spreading laterally on to the cheeks and involving also the upper and lower lids of the left eye, are seen nodulated and irregular growths of various shapes and sizes. Some of these are still covered with epidermis, whilst others are raw, bleeding, and fungating. Upon the left upper eyelid are seen typical rolled elevations characteristic of rodent cancer. Some of these are situated about the outer canthus. The disease prevents the patient elevating her eyelid, while the lower lid in its inner third is ectropic. Situated in the substance of the right cheek a lobulated growth as large as a walnut is seen. The epidermis is intact (see Photographs 1 and 2.)

Treatment.

Treatment was commenced June 23rd. *X*-ray exposures were continued twice weekly up to the 30th November. The duration of the treatment varied from five to twenty minutes, according to the effect produced. On July 10th the fungating growths were shrivelling up. On July 21st these were gently removed with a curette. On July 31st signs of healing and cicatrization were evident. On September 4th the other growths were reduced almost to the level of the surface. Photograph 3 shows that the growths on the nose had disappeared. The nasal apertures contracted, the right being a mere slit, and the situation of the growth in the cheek represented by an indurated scar. In November an artificial nose, made by Harry Brook, of Halifax, and attached to spectacles by Curry and Paxton, was supplied (Photograph 4).

Unfortunately I was unable to procure any portion of the growths for microscopical examination. The disease, however, in the centre of the face undoubtedly began as a rodent cancer, which after all is but a variety of epithelioma; indeed, I have seen true epithelioma develop on the site of a rodent ulcer. As to the nature of the growth in the cheek, I am unable to go further than to express the opinion that it is a form of carcinoma, and in this I am supported by Mr. F. T. Paul. There was an absence of any glandular infection.

A MICROBE PATHOGENIC TO RATS (MUS DECUMANUS AND MUS RATUS.)

AND ITS USE IN THE DESTRUCTION OF THESE ANIMALS.

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[Translation.]

Ever since Loeffler[1] first published his discovery of the bacillus typhi murium, which he isolated during an epidemic of spontaneous disease among white mice and successfully employed in the destruction of field mice (M. agricola), many other bacteriologists have had occasion to study epidemics of a corresponding character and have isolated microbes morphologically identical with that of Loeffler, but exhibiting considerable variety in their effect on different species of small rodents.

Thus the B. typhi murium proved to be absolutely pathogenic only towards ordinary mice (M. musculus) and field mice (M. agricola), that of Laser[2] towards the mus agrarius, that of Merechkozzski[3] in the case of ground squirrels, and, finally, that of Hatchenko[4] towards white rats. In addition, each of these different bacilli was found to vary so considerably in virulence that much difficulty was experienced in turning the powers of any of them to any practical purpose.

It was obvious that it would be exceedingly useful if any means could be discovered (1) of extending the field of action of any one of these microbes and of thus rendering it capable of attacking rodents other than those towards which it was normally inimical; (2) of maintaining its virulence after having thus raised it to the desired pitch. This is the problem which I set to work to solve, and the following is an account of how far I have succeeded up to the present date.

A cocco-bacillus which I isolated during an outbreak of spontaneous disease amongst field mice presented the general characteristics of the B. coli, and to that extent resembled the bacillus of Loeffler, and also from the beginning exhibited some pathogenicity towards grey rats (M. decumanus). Out of ten such rats fed upon a culture of this microbe I found that there died as a rule two or three, while others fell sick but recovered, and the rest remained perfectly healthy. The fact that a certain number of rats fed upon these cultures invariably died seemed to offer some hope that it would be possible to increase the virulence of the microbe by ordinary methods, that is to say, by passing the microbe a certain number of times from rat to rat. On the contrary, however, after making a great number of experiments of this character, it was found that the passage of the microbe from rat to rat, so far from exalting its virulence, always weakened it, whether the animal was inoculated with the culture hypodermically or simply fed upon it. Thus in