ON THE CONTAGIUM OF IMPETIGO CONTAGIOSA.

By H. RADCLIFFE CROCKER, M.D.

THOUGH not altogether unknown, this disease did not meet with general recognition and attention until after the publication of Dr. Tilbury Fox's article upon it in the *British Medical Journal* in 1864. Inquiry was naturally directed to the cause of its being contagious. In this country Mr. Hutchinson, in the *Pathological Transactions*, vol. vi., figures a fungus found in the crusts of two cases only out of many examined, and confesses that therefore the fungus is not an essential part of the disease. Kaposi and Geber have also found a fructifying fungus in the crusts. Geber, however, regards it as accidental. Piffard, in the *New York Medical Journal* for June, 1872, as quoted by Duhring, describes a vegetable organism of various shapes and sizes, mostly extremely minute, circular, oval, biscuit-shaped, and rod-like structures; no mycelium or spores. Occasionally he saw the same fungus as Kaposi. All these organisms were found in the crusts only, and are naturally open to the objections that, besides not being constantly found, they were present in the parts exposed to the air, and were therefore probably deposited from without. Dr. Tilbury Fox searched repeatedly in the fluid, but found no fungus.

So far, therefore, the fungus theory appears to have broken down; but the facts daily accumulating in favour of contagia being particulate led me to investigate the subject anew, and feeling that it was useless to examine the crusts, I selected cases in which the vesicles or pustules were still unruptured, thrust in a capillary tube, and then immediately sealed up the fluid withdrawn. The clear fluid was first examined with a power magnifying 550 diameters, and floating free in the fluid chains of micrococci were found;

Micrococci of impetigo contagiosa free in the fluid from a vesicle or pustule, and on the detached epithelial scales.

these were mostly in lines of four, but some longer chains were found and some pairs. The number was not very great, and on account of their minute size could be easily overlooked. In the pustular fluid the organisms were not certainly recognisable, owing to the large number of corpuscles and epithelium present with their debris. On staining the fluid with methanilin-violet the difficulty was removed, and micrococci in far larger numbers than in the clear fluid were to be seen; some were free in chains of two to eight or more, either in curved or straight lines; others were attached to the epithelium, but, so far as was observed, not to the pus-corpuscles. These latter stained much more readily than the small epithelial scales, and the micrococci stained deeply, and were therefore readily discerned in or on the epithelium. They were situated for the most part at the borders of the epithelium, though sometimes they were in the centre as well. Besides the chains some larger circular organisms were seen, but separate and comparatively few in number. No bacteria were observed. The micrococci could be seen with a power of 350 diameters, but of course a higher power was advantageous. Are these organisms the source of the contagion? It must be admitted that there is not absolute proof of it, and nothing but their successful cultivation, and inoculation with the cultivated fluid, would give a complete answer; but that their presence is not merely accidental is evidenced by their uniformity, so far as I have investigated, in unruptured vesicles and pustules, and in greater number in the pustules; while that they are intimately connected with the contagious property of the fluid, either as the contagium itself or as carriers, is rendered highly probable by the facts accumulating almost daily, connecting similar organisms with other contagia. Further investigation can alone decide this; but at present I merely wish to place the facts already ascertained upon record.

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ON THE USE OF THE SOLID RUBBER BANDAGE IN THE AFTER-TREATMENT OF SOME FORMS OF DISLOCATION AND ITS ATTENDANT RIGIDITY.

By H. J. FORSTER, L.R.C.S.I.

PERHAPS in the whole category of complaints which the general practitioner has to treat there are none more productive of an annoyance to himself and anxiety to his patient than the partial ankylosis and oedema which are consequent more or less generally on all forms of dislocation. These disagreeable after-results might easily be avoided, or at all events reduced to a minimum, in suitable cases, if the medical attendant, after the proper manipulation of the joint and a few days' rest, were to apply a suitable elastic support and enjoin the patient to move about short of fatiguing the injured part. In the subjoined cases in illustration of the above remarks, no originality of treatment is claimed save in the material used, the advantages of which over the ordinary bandage I shall endeavour to prove.

In July last I was consulted by a patient who informed me that during the previously severe winter she had slipped and broken the small bone of her leg, as well as putting her ankle out. So the bone-setter under whose care she had been during the interval had told her. On examining the injured parts there were found considerable oedema and partial ankylosis. She also stated that her leg had been fomented and poulticed for some months, and as she had not regained her usual strength under this treatment, splints were applied from knee to ankle, and strict rest enjoined. On being requested by me to get up from the sofa on which she was lying and to move about, or even stand on her foot, she evidenced such symptoms of fear and dread of pain that I considered it useless to persist further. I consequently applied a rubber bandage as tightly as could be borne over the ankle and lower part of the leg, with the injunction it was to be removed at bedtime and reapplied in the morning. This treatment was persevered in for the next four days, when on again calling I found she could walk about fairly well, and that the oedema had almost entirely disappeared. After the expiration of a month, during which time she wore the bandage daily, she said she felt about as well as ever, and could walk any reasonable distance without help.

Another case, that of a man over whose ankle an empty cart had passed, after being under the care of an irregular practitioner for nearly three months, found himself at the end of that time with a more or less stiff joint. In his case, after the fibrous adhesions had been broken up in the manner so well described by Dr. W. Hood in the pages of THE LANCET, the bandage was applied and he was ordered to get about. In a short time the result was as good as could be desired.

Three cases of partial dislocation of the cartilage of the knee-joint, after being reduced, were treated in the same manner, and gave no further trouble, not even necessitating the usual preliminary few days' rest.

Four other cases of severe sprains, two of the wrist and two of the ankle, were also successfully treated in the same fashion.

The advantages which I have found to accrue from the use of the solid rubber bandage over the ordinary calico one are the continuous elastic resistance offered by it, and the consequent absorption both of fibrous, callous, and serous effusion, as well as a greater feeling of support, enabling the patient to move about with more confidence. In these points the calico bandage must be deficient for obvious reasons. Also, in the neighbourhood of the knee-joint, there is not merely greater adaptability in the bandage *per se* over even the ordinary elastic knee-cap, but by its greater density and elastic pressure it serves to keep *in situ* what a substance more or less wanting in these two properties can hardly be expected to fulfil. The one drawback experienced in the continuous use of the rubber bandage is the production of minute vesicles, which may become troublesome; however, this inconvenience may be avoided by punching several small holes in the material at suitable intervals.

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