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### RÉSUMÉ

Les principales causes de perforation du colon ou du rectum comprennent la diverticulite et le cancer, auxquelles on peut ajouter la rectocolite hémorragique traitée par la cortisone, les dysenteries et les traumatismes. L'anamnèse joue un rôle fort important dans

l'établissement du diagnostic, de même que la plaque simple de l'abdomen si l'on peut déceler la présence d'air dans la cavité péritonéale. Certains malades n'obtiennent pas tous les avantages de la réanimation avant que l'opération ne soit en cours; il importe donc de procéder sans trop tarder. Les différentes techniques opératoires comprennent la suture de la perforation, l'extériorisation, la résection, la formation d'anūs iliaque et le drainage. Toutes doivent être secondées par l'administration d'emblée d'antibiotiques, d'action étendue. Si la cause est bien établie on peut l'attaquer dès la première intervention comme pour le cancer; par contre on doit attendre que l'état général du malade s'améliore s'il s'agit de diverticulite. Dans la rectocolite hémorragique la colectomie avec iléostomie semble d'usage. Les traumatismes se prêtent assez bien à la chirurgie réparatrice à condition que le malade ne soit pas en état de choc. L'auteur fait part de son expérience personnelle dans une série de 19 cas de telles perforations.

## Case Reports

### MILKERS' NODULES

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MILKERS' NODULES is a skin disease which is transmitted from milk cows to man. It was first described on this continent by Becker<sup>1</sup> in 1940. In order to ascertain how uncommon or otherwise this condition is in Canada, 31 dermatologists from coast to coast were contacted. Seven of these have seen cases in this country. Gaumond and Auger<sup>2</sup> reported two cases and have seen two more.<sup>3</sup> However, it would seem that this disease is not so uncommon as it appears to be. Possibly, many patients do not seek medical advice and others are seen by general practitioners, particularly in the country.

The infection does not appear to be vaccinia or genuine cowpox, but paravaccinia, or pseudo cowpox, or natural cowpox. Smith<sup>4</sup> considers them to be different diseases, as do most authorities. Both types occur only in dairy cattle. A great deal of confusion exists concerning these two diseases, not only among cattlemen but also amongst physicians and veterinarians. It would seem that the term "cowpox" could well be discarded. In this report, to avoid at least some of the aforesaid confusion, pseudo or natural cowpox or paravaccinia will be referred to as *paravaccinia* in cows, and *milkers' nodules* in man. Genuine cowpox or vaccinia will be *vaccinia* in man or beast.

Paravaccinia is probably common in milk cows all over the United States and Canada, and

also in Europe as well as in other parts of the world. Blank and Rake<sup>5</sup> and others think it is caused by a virus, but this has not been definitely proven.

Veterinarians inform me that sores and warty lesions on the teats and udders are fairly common in Alberta. Opinions vary as to just how common this disease is. According to Smith,<sup>4</sup> paravaccinia "occurs in a few herds in many districts throughout Canada". He further states that "an outbreak confers immunity, as it is rarely seen a second year on the same premises".

Hagan<sup>6</sup> describes the lesions. On the cows' teats and udder, paravaccinia is papular, then vesicular, then pustular and crusted. The lesions may coalesce. Secondary infection may produce a mastitis, but otherwise the general well-being of the animal is not affected. The teats, however, may be sore, making milking difficult. Nomland and McKee<sup>7</sup> state that the lesions are up to 1.5 cm. in diameter, and each lasts for about two weeks. There are usually two to 12 present in various stages of involution. They last six to 12 weeks or longer in each animal. Usually, the whole herd is infected one after the other. The epidemic may last a few months, or up to 18 months or longer in large herds. The disease is thought to be spread by milking machines<sup>5</sup> or by the milker, who does not necessarily have or acquire milkers' nodules. Hagan<sup>8</sup> and others have failed in attempts to transmit paravaccinia in milk cows. Also, they could not transfer the diseases from man to cattle.

In man, milkers' nodules usually are on the hands or wrists from direct contact. They may also occur on the neck and face.<sup>7</sup> They fre-

Fig. 1

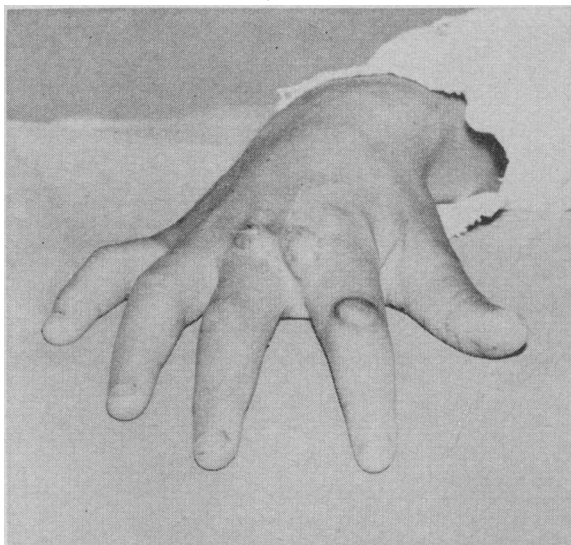


Fig. 2

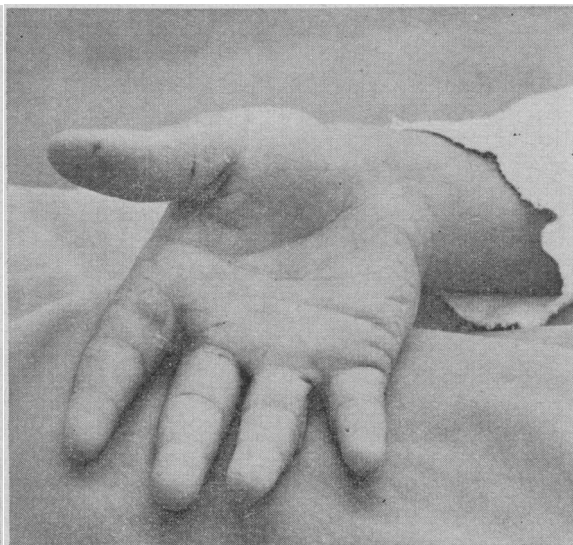


Fig. 3

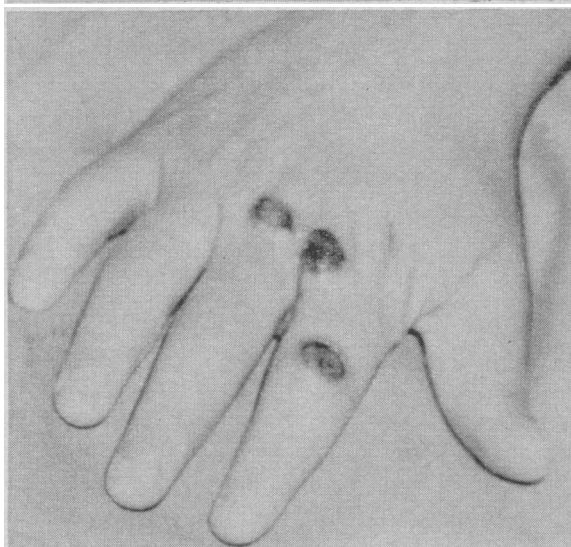


Fig. 4



Fig. 1.—Bullous lesions as present on the back of the hand when first seen. Fig. 2.—Bullous lesion on palmar surface index finger. Evidence of the resolving dermatitis is also to be noted. Fig. 3.—Nodules after the removal of coverings of bullæ. The lesion on the thumb cannot be seen. Fig. 4.—Nodule on palmar surface. Evidence of the dermatitis can still be seen.

quently appear on abrasions of the skin.<sup>6</sup> The incubation period is usually 5-7 days, but Sedláček<sup>9</sup> states it may be 5-28 days. The nodules are raised, reddish or purple in colour, and may be smooth or warty. Less often the lesions are pustular or bullous.<sup>9</sup> Sometimes they have an erythematous halo. They may be somewhat tender. The number of lesions is usually one to five<sup>9</sup> but Hagan<sup>6</sup> mentions a case in which there were 60 on the hands. They vary in size from 0.6 cm. to 2 cm.<sup>10</sup> Other clinical manifestations which may occur include regional lymphadenitis, slight fever, mild constitutional symptoms, moderate leukocytosis and eosinophilia. They run their course with or without treatment in 5-8 weeks.<sup>7</sup>

Secondary (toxic) eruptions have been described by Sedláček<sup>9</sup> and Sonck,<sup>10</sup> appearing 5-18 days after the nodules and lasting a week or two. These may be papular, vesicular, and urticarial, or resemble erythema multiforme. They favour the hands, forearms, and ankles, but may be generalized.

Milkers' nodules can be spread from man to man (Sutton<sup>11</sup>). Sonck and Penttinen<sup>12</sup> successfully transmitted a patient's lesion to one of them, and then from that one to the other. Sedláček<sup>9</sup> reported 55 cases, in one of which a physician contracted it from a patient. Transmission from person to person, however, must be rare.

The virus of vaccinia has been thoroughly studied.<sup>5</sup> It occurs in cows in epidemics, but only when the virus is transmitted from recently vaccinated humans (Abente Haedo<sup>13</sup> and Boerner<sup>14</sup>). The lesions are pock-like vesiculo-pustules with an erythematous halo, and resemble herpes zoster. Apparently there may be up to 20 lesions in the one animal.<sup>14</sup> They suffer from constitutional symptoms, with a falling off of the milk production. Recovery takes place in a few weeks.

In man,<sup>13, 14</sup> the lesions of vaccinia are also pock-like, and dry up and become crusted. There are usually 5-20, and they are found mostly on the hands. Constitutional symptoms are also present. The condition takes some time to run its course. A case described by Laurance<sup>15</sup> lasted some 20 days.

It has been definitely shown<sup>7</sup> that vaccination against smallpox does not prevent one who has been exposed from acquiring milkers' nodules, and those with the active disease may be successfully vaccinated. The same is true in cows;<sup>8</sup> that is, vaccination does not protect against paravaccinia. Also paravaccinia does not prevent the animal from contracting vaccinia. However, vaccination does protect man or animal from vaccinia. *In other words*, paravaccinia (milkers' nodules) and vaccinia (or vaccination) *each produces immunity to itself, but there is no cross immunity.*

—, aged 12 years, a big, healthy, intelligent boy, was first seen in my office on June 27, 1956. He had had an eruption on the right hand for 15 days. In addition he had soreness of the right armpit, and felt somewhat poorly for a few days. He had not done his farm chores for four days, but was not ill enough to go to bed.

Apparently the first lesion appeared on the posterior surface of the index finger (Fig. 1). Those at the base of the middle finger were next noted, and then that on the back of the thumb (Fig. 1). The last and only one on the palmar surface appeared on the index finger (Fig. 2) about 8 days after the original. All began as small blisters which enlarged. When stripping the teats, the patient employed in turn the thumb and index fingers, and then the index and middle fingers. Therefore it can be seen that all lesions were situated where the skin was in contact with the cows' lesions.

The past history was of interest. He had been successfully vaccinated in 1947 and again in 1951. His parents informed me that his palms and fingers were always red, scaly and sometimes fissured when he attended school. This they attributed to the chalk. Apparently there was rapid improvement when he either stayed at home or did not use chalk. There was definitely no connection between the dermatitis and milking. He was at school and his hands were "all cracked" when the present eruption began. However, this had improved a great deal when he was first seen, as he had been on holidays for several days. Before he was referred to me, sulfonamides by mouth and penicillin injections had been given. The lesions, however, had continued to enlarge slowly but very definitely.

The patient stated that their four milk cows had all had "scabs" on their teats and udders. Both he and his father were indefinite as to how long they had been present, but it had been at least two months. When last milked by the patient on June 23, 1956, one cow still had definite lesions. They were certain of this.

The father stated that there were also sores or wart-like lesions on his neighbours' herds. He was not able to give me any definite information as to how often this occurred. He did not think there had been any around their district for the past few years. No humans were known to have had anything resembling milkers' nodules.

*Examination.*—There were five tense, thick-walled bullae present (Figs. 1 and 2). The lesions were about 1.25 cm. in diameter but those on the thumb and palmar surface of the index finger were somewhat smaller. The colour was a bluish grey. The fluid in the blisters was clear, yellowish in colour, and the consistency of a thin syrup. They were not tender. Each was surrounded by a narrow, dark red band. There was slight but definite erythema and scaliness of the palms and fingers. However, no fissuring was present. Another finding was of common and flat warts on the right forearm and hand. There were no verrucae on any other parts. The epitrochlear and axillary lymph nodes were enlarged and tender on the involved side. He was admitted to Calgary General Hospital (Isolation) on the same day. His temperature was 99.2° F. on admission, but normal thereafter.

Culture of the fluid grew *Micrococcus pyogenes*, which was sensitive to all the antibiotics including neomycin and bacitracin. Because of this finding and because Sedláček<sup>9</sup> had stated that his patients treated with chloramphenicol (Chloromycetin) had healed more quickly, this drug was prescribed on the day after admission. The dosage given was 500 mg. stat., and 250 mg. q.6.h. Also Neosporin ointment was prescribed locally. As far as can be ascertained, he had never had any antibiotics—except as mentioned above for his present illness.

Virus studies\* were also done on the fluid. It was reported that no virus could be isolated on HeLa, amnion, or monkey kidney tissue cultures.

Two days after admission, there was some question of an anaerobe being present in culture. This was discussed with Dr. G. B. Elliot, pathologist, Calgary General Hospital, who advised removal of the blister coverings, and soaking with hydrogen peroxide as a precautionary measure. He stated, however, that the tetanus bacillus is a common contaminant in this part of the country. The patient, according to his mother, received tetanus toxoid in 1947 and 1951 (as well as being vaccinated).

The lesions now were raised, dome-shaped, and bluish-red in colour (Figs. 3 and 4). The surface of each was irregular or warty. They were not tender. Also the slight tenderness had now disappeared from the lymph nodes, and the patient felt well and had an excellent appetite.

On that same day—17 days after the lesions had first been noticed—he complained of irritation of his arms. A rash consisting of small papular erythematous lesions was noted on both arms, especially the right. The following day, the eruption was also on the forearms, thighs and legs. It was most marked on the right arm and thighs. In addition to the papules there were then very fine purpuric lesions. The eruption was most marked three days after it was first noted. After this it began to fade, and had disappeared completely in nine days.

On July 12, 1956, or 30 days after their appearance, the nodules on the thumb and anterior index finger were gone and only erythema remained. The others were almost flat, but their surfaces were somewhat rough. It will be noted that the last two to appear were the first to disappear. The parents informed me that the

\*These studies were carried out by Dr. J. C. Wilt, Professor of Bacteriology, University of Manitoba.

lesions had completely disappeared on August 1. The condition therefore lasted some 6-7 weeks.

The laboratory findings (apart from the cultures) were as follows. On admission his urinalysis was negative and his blood picture was: hæmoglobin level 14.0 g. %; white cells 5400; differential: neutrophils 45, blast 1, ophils 4, lymphocytes 21, monocytes 3. Film appearance normal. Erythrocyte sedimentation rate 13 mm. in one hour (Westergren); icterus index 2; hæmatocrit 45 vol. %. Summary: no changes. Kahn test negative.

On July 11, 1956, 14 days after admission: Hb 14.0 g. %; white cells 5400; differential: neutrophils 45, blast 1, eosinophils 4, basophils 2, lymphocytes 43, monocytes 4, plasma cells 1. E.S.R. 4 mm. in one hour. Icterus index 2, hæmatocrit 44 vol. %. Summary: one solitary blast-like cell seen.

#### SUMMARY

The etiology, proven and otherwise, of vaccinia, paravaccinia, and milkers' nodules has been briefly reviewed. The clinical features of these diseases have also been outlined in man and dairy cattle.

A case of milkers' nodules has been reported. The lesions appeared on a long-standing, fissured dermatitis. They were bullous but, on removal of their coverings, were typical of this disease. The usual mild constitutional symptoms plus enlarged, tender, regional lymph nodes and slight leukocytosis were present.

Virus studies of the blister fluid were negative. A questionable anaerobe and *Micrococcus pyogenes* were cultured but considered to be contaminants.

The antibiotics employed locally and systemically did not influence the course of the disease. Chloramphenicol was discontinued after 11 days.

A secondary eruption appeared some 17 days after the original lesions. It lasted 9 days. The possibility that this was a reaction to sulfonamide, penicillin, or chloramphenicol cannot be ruled out with certainty; the toxic dermatitis, however, appeared and resolved while the last drug was being given.

#### CONCLUSION

The *diagnosis* of milkers' nodules is difficult only because we do not see the disease. The history *should be* straightforward, that is, lesions appearing usually on the hands after contact with infected cattle. The only likely alternative considered, when this patient was first seen, was a bullous impetigo. The typical lesions or variations, however, may have to be differentiated from ecthyma, granuloma pyogenicum, bromide and iodide eruptions, primary tuberculosis, primary and even secondary syphilis, vaccinia, ecthyma contagiosum (Orf), anthrax, and the deep-seated mycoses.

The assistance given by Drs. J. C. Wilt, G. B. Elliot and A. A. Dixon in preparing this report is greatly appreciated. The author also wishes to thank Dr. H. W. Epp of Didsbury, Alberta, for referring this case to him.

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### THE USE OF THIO-TEPA (TRIETHYLENE THIOPHOSPHORAMIDE) IN MELANOTIC SARCOMA

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THE PATIENT, Mrs. B., aged 48 years, was admitted to Sherbrooke Hospital on November 25, 1956, with a history of having had pain of increasing severity in the right lower chest and the right upper quadrant of the abdomen. The pain was worse on inspiration. She had been unable to eat, and felt very weak and fatigued.

In September 1955, Mrs. B. had been admitted to the Montreal General Hospital, and had undergone enucleation of the left eye for a tumour which on pathological examination was found to be a melanotic sarcoma of spindle type B. It was located right at the ciliary body, which is said to be one of the less favourable situations for eye tumours. There was nothing else of significance in her past history.

When she was first admitted to Sherbrooke Hospital, the nature of the eye tumour was not known, but as she presented the classical picture of the patient with a glass eye and enlarged liver, melanotic sarcoma with metastasis in the liver was naturally suspected.

After removal of the eye, Mrs. B. had been well for several months, and then gradually her appetite decreased and she lost 20 to 30 lb. during the summer of 1956. In the five days immediately before admission, the pain was constant, very severe and intensified by any movement. She was confined to bed, and had to