

MEDICINE AND SURGERY IN THE ARCTIC CIRCLE.

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ALTHOUGH there are no diseases peculiar to the Arctic Circle, scurvy, snow-blindness, snow-shoe sickness, and frostbite are usually associated with Arctic exploration and hunting expeditions. Among the men who wintered within the Arctic Circle during 1898-99, passing over that part of the Edmonton trail to the Klondyke, there were a considerable number of cases of scurvy. On the Rat River—a tributary of the Mackenzie—out of a camp of 110 men there were twenty-two cases of scurvy, with six deaths. While out of twenty-six men on the lower Peel River we only had one case. The conditions as to fresh meat and food generally being the same, I can only attribute our immunity to a more active life and greater attention to details in cooking, along with considerable consumption of "spruce beer." On inquiring into the cases of scurvy on the Rat River, it was found that during the dark months of December and January the men affected took little or no exercise, and seldom moved out of their cabins. Also their food, principally consisting of bacon and beans, had been imperfectly cooked, and, to a greater extent, the precaution of cleaning cooking utensils and plates had been neglected. In all cases there was a great tendency to cardiac failure, and the symptoms followed the usual course, *i.e.* "black-leg," spongy gums, constipation, cardiac weakness. The treatment was of the usual form, and, in addition to medicinal treatment, there was nothing better than raw potatoes, which in a few cases were available, and, failing this, evaporated sliced potatoes, spruce tea—the decoction of young spruce tops and hot water—gave excellent results; or the more palatable form of spruce beer—a compound of spruce tops, yeast, flour, sugar, and water, mixed and allowed to stand in a warm place for a week before use. Lime juice and citric acid were not so satisfactory. Tinned foods, and especially condensed milk, have been advanced as a cause of scurvy, but among the pilgrims there was not enough of the latter, and none of the former, to render it a probable cause.

Snow-shoe sickness (mal de raquette) was more or less common. A teno-synovitis of the tendo Achillis, and more rarely of the tendons on the front of the leg. Absolute rest, elevation, hot fomentations, and massage were the only remedies of any use, and the condition is apt to be very tedious, laying the patient up for a time varying from a fortnight to three months. The condition may, however, occur without the use of snow-shoes, from long travelling on a hard trail—due to the absence of any form of heel on the moccasin.

Snow-blindness, with rare exceptions, is only seen in the spring when the sun's rays are reflected with great brilliancy from the snow, a simple and efficacious preventive being to tie a coloured handkerchief round the head crossing the nose, thus shielding the eyes from the light on the snow. Snow glasses, of smoked and green glass or of talc, are useful, and for the condition itself, absolute exclusion of light and the application to the eyes of a solution of boric acid and cocaine is usually sufficient. The effects usually pass off in a few days.

Frostbite.—There were many cases of frozen limbs, ears, and noses, mostly superficial, for which the rubbing over with snow was sufficient, but in a few cases amputation of fingers and toes—and in one case amputation above the ankle, was required. For a badly frozen limb the treatment is immersion in cold water, rubbing with snow, and, after the circulation has been restored, wrapping the limb in flannel and elevating. I thought this was generally known, and my excuse for mentioning it is that I saw an American doctor with the soles of his feet badly frozen hold them up against a stove—in spite of repeated warnings—the result being that a great part of the soles of both feet sloughed, confining him to bed for a month, and rendering him lame for some months afterwards.

Wounds.—The healing of wounds among the whites in the far north is unsatisfactory, especially in lacerated wounds caused by the sharp spikes on the pine trees. Clean-cut wounds, such as caused by axe or knife, even under most careful antiseptic treatment, nearly always suppurated. Among the Indians the results are better. I removed a large fatty tumour from the arm of an old Indian woman, closing the wound with sutures of sinew got from the tendons of the foreleg of the cariboo, and healing took place by first intention. There were a few cases of gunshot and bullet wounds, one a compound comminuted fracture of the proximal phalanges of the ring and middle fingers; the bones united early, but the soft parts healed slowly, with webbing of the fingers; this, however, yielded to the usual operation.

Tuberculous disease is prevalent among the Loucheux Indians, and even more so among the half-breeds, the lungs, glands, and in a few cases the testicle being affected. I did not see any tubercle of bones or joints. Epidemics of whooping-cough occur, and are very fatal among the Indian children, and concerning this a curious thing has been observed. Some years ago whooping-cough was prevalent at Winnipeg and some of the Hudson's Bay Company's employees there suffered from it. In July, when the annual supply of trade goods reached Peel River post, and on being opened, several cases of whooping-cough occurred, and shortly after the goods were traded with the Indians an extensive and fatal epidemic of whooping-cough occurred. I understand there was a similar experience at other posts on the Mackenzie River during the same season.

The eating of imperfectly thawed meat on the trail gave rise in some cases to acute gastric pain and great collapse, and in some cases to acute diarrhoea; this yielded quickly to medicinal treatment when available, or, when in the mountains, to copious draughts of hot water and the application of heat to the abdomen. Among the coast Indians and Esquimaux to the east and west of the mouth of the Mackenzie River, venereal disease and syphilis are frequently seen, and among the Esquimaux are greatly aggravated by their filthy habits. During the almost tropical summer from June to August, mosquitoes and small black flies are a perfect scourge, and on several occasions badly poisoned wounds followed their bite, and in one case symptoms of fever of a malarial type. The winter cold being extremely dry, it is the custom to sleep out, while on the trail, round the camp fire, at temperatures from 20° to 50° below zero, without anything overhead, and with only a few pine boughs and a waterproof sheet between one's blankets and the snow. This would appear to be an excellent country for the open air treatment of phthisis.

Medicines should be carried in tabloid form. The advantages are obvious—greater portability, and they are not affected by the temperature, sometimes as low as 70° below zero. Midwifery among the Indians is generally a simple matter. One woman, with a band of Indians on the trail, stopped behind with another woman at the midday camping place; her child was born, and after an hour or two, the two women with the baby walked on eight miles and joined the main camp. Two white women passed over the Edmonton trail in 1898 and 1899, and at Fort Macpherson one of them gave birth to a child, in January 1899, on the coldest night of the year. Her husband asked me to be present, and volunteered the statement that he had borrowed a pair of midwifery forceps from the mission. On arriving at the cabin, I asked to see the forceps, and he handed me a good-sized pair of ice tongs, which, fortunately, were not required. In due course the child was circumcised, and when three months old was taken across the 100 mile portage from the Peel to the Bell River, sleeping out for three nights at a temperature below zero, and reached Dawson in June, after a thousand miles journey through the Arctic over the snow and by open water, before attaining the age of six months. This, and the fact of his being one of the three "farthest north" white children—as far as I can gather—are the only reasons for mentioning his existence. The other two children are Lieut. Peary's child born in Greenland, and the child of the Rev. Mr. Stringer, the missionary at Herschel Island.
