

That a very large percentage of women are totally unfamiliar with the serious significance that attaches to departures from normal menstrual function appears perfectly obvious. It is also evident that lumps in the breast frequently escape recognition over prolonged periods, and, even when discovered, unless accompanied by pain, these abnormal findings are not infrequently ignored as matters of little or no consequence. It is this disastrous situation that accounts for the fact that out of our total death rate from malignancy nearly 20 per cent is found in these two groups. (In 1931 in Canada there were 4,828 deaths in women from cancer. Of this number there were 1,809 deaths from cancer of the generative organs).

That self-diagnosis and contempt for apparently trifling symptoms are the most common errors that frequently lead to terminal disaster is well recognized. That more or less constant familiarity with not altogether dissimilar symptoms that have not eventuated in disaster accounts for the false security that patients so often entertain is possibly not equally well recognized. Only in adequate education shall we find a solution for this most disastrous impediment to earlier diagnoses.

It is thoroughly appreciated that the well-intended advice that is so often tendered to the cancer patient by ill-advised friends very

frequently contributes to unfavourable end-results because of the definite misdirection that is provided. Too often, we lose sight of the fact that, seeing only the occasional cancer case and being largely non-conversant with modern diagnostic and treatment procedures, not infrequently medical men similarly contribute to definite misdirection. Because of this unfortunate situation the urgent necessity for public and professional education in relation to cancer is again accentuated.

When we recall that approximately 30,000 Canadians are annually afflicted with cancer, and that one-third of this colossal number, to no small degree unnecessarily, are yearly relieved of their suffering by death; when we recognize that it is only in early diagnosis that we can offer the patient a reasonable prospect of cure, we more fully realize the necessity for at once instituting a type of organization that will effectively function in assisting to remove the many unfavourable factors that are constantly at work in perpetuating late diagnoses.

*The cancer victim's greatest enemy is ignorance.* The complete eradication of this disastrous element must be our first objective if we, as a profession, are to function effectively in an organized endeavour to minimize the menace that the ever-rising incidence of malignancy is imposing upon the people of this country.

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#### A CASE OF ASTHMA DUE TO MAY FLIES (EPHEMERIDA)

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THERE are so many substances which may set up sensitizations that the tracing of the one or more responsible for allergic symptoms in a given case may call for a good deal of investigation. In most cases, however, the sensitizing agents are either clearly indicated in the history, or are confined to a comparatively small group, particularly when they are of the inhalant type, such as the pollens and the epidermals. Amongst the latter we usually think first of such common excitants as horse dander, and the hair or feathers of other domestic animals. But it should be realized that all epidermal material is a potential sensitizing agent, no matter from what source it is derived, and we should there-

fore expect occasionally to come across cases of unusual origin. It seems to be a matter of sufficient exposure to the given substance in a susceptible individual.

Some of the less usual epidermal excitants recorded are, humming birds, butterflies, bed-bugs, and bees. In the following case report I shall give details of yet another insect which has been implicated in causing asthmatic attacks.

#### CASE REPORT

In mid July of this year the patient, a man of 44, presented himself (referred to me through the courtesy of Dr. Lochead) with all the symptoms of bronchial asthma, accompanied by some coryza and sneezing, although when I saw him his attack was nearly over.

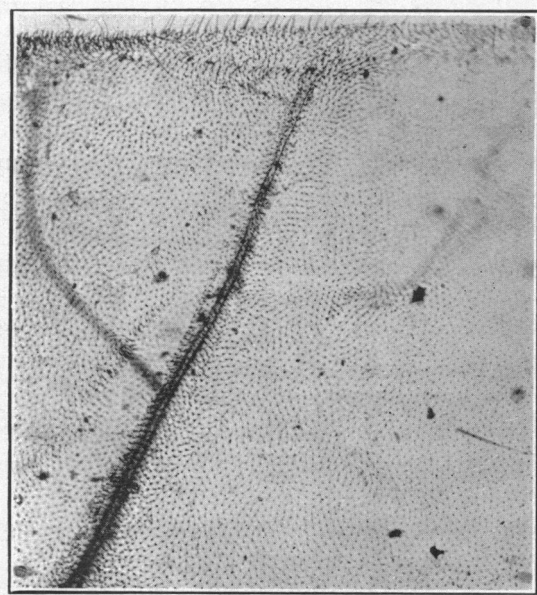
He came from North Bay, Ont., on the shore of

Lake Nipissing, where he worked as an expressman with the C.P.R. His history showed that during the past five years he had suffered from these asthmatic attacks in late June and July, for a period of about five weeks each year. Both before and after this time he was perfectly free of any symptoms. He found, however, that when he travelled some distance out of North Bay, either west to Fort William or east to Montreal, his attacks abated, but as soon as he got back to North Bay they returned.

His family history showed that one brother was subject to hay-fever, and one sister was hypersensitive to celery. His personal history contained nothing else of special note.

His own view was that his trouble was due to the May flies, of which he said there were incredibly large numbers in North Bay, but as it was necessary in any case to eliminate other more likely possibilities, I spent a good deal of time testing him with the summer pollens and the ordinary foods. When, however, I found him to be entirely non-reactive to any of these I began to think of his own explanation, *i.e.*, the May flies.

Samples of flies were sent down from North Bay, and I tested them on him both by the conjunctival and the cutaneous scratch test. A mere flick of the caruncle with the wing of a fly produced



Microphotograph of dried May fly's wing, showing hairs along edge and on surface.

in a few minutes a violent reaction, with intense engorgement, itching, and lachrymation, and by the next morning the eye was nearly closed. The scratch test was done by soaking a wing in decinormal sodium hydrate and scratching through it into the arm. This produced a similarly sharp local reaction, which persisted for 24 hours.

There seemed to be little doubt then as to at least the main source of his asthma.\* In further confirmation, I collected specimens of various flies, shad flies, dragon flies, and another unidentified species, from the shores of the St. Lawrence and Lake St. Louis in this neighbourhood, and tested each one of them in the same way on him, but using the scratch test only, as the conjunctival method seemed to me to be unjustifiably severe. None of these produced any reaction on him, beyond a very mild response from the shad fly. This was in keeping with his statement

that he was better when he came down here, but of course that might have been accounted for by his staying in the city away from the breeding places of flies. I obtained no May flies in my random sample, but they must undoubtedly occur here, and probably in large quantities.

#### TREATMENT

I attempted desensitization, but circumstances made it a rather hurried procedure. A rough extract containing the epidermal structures of the May fly was made by maceration of a handful of the flies in a buffered solution of glycerine and saline, with metaphen as a preservative. Filtration of this produced a clear brown fluid. Its nitrogenous content was not determined, but as it produced powerful reactions on the patient by cutaneous tests, I regarded it as of high concentration, and diluted it by successive stages to a strength of 1:100,000. Tests with this dilution gave only very mild reactions, and I therefore began treatment with it. Injections were given at two-day intervals, beginning with 0.2 c.c. of the 1:100,000 dilution and increasing fairly rapidly until the 1:100 strength was reached. He developed one attack of asthma, but no other general reactions. There was a moderate local reaction after each injection. Adrenalin was given with the stronger doses.

He went back to North Bay in two weeks' time, and reported further attacks of asthma, but less severe in nature. A week later he reported complete freedom, but the local fly season was then practically over, according to him, and the cessation of his attacks was to be expected in any case. He is continuing his treatment, but it will not be until next year that its efficacy will be put to the test.

The specimens of flies sent down from North Bay belonged to the Order Ephemera, and are known popularly, and indiscriminately, as May flies, shad flies, or lake flies. One American writer even gives them the title of "Canadian soldiers". Professor E. M. DuPorte, of MacDonald College, has been kind enough to identify them for me, and to give me some idea of their life history.

The flies, as such, have only a few hours' existence, theirs being indeed but a "transitory life"; the name of their Order has been appropriately chosen. They leave the water, where they have spent from one to three years (depending on the species) in the nymph stage, crawling on the bottom or swimming, and rise or crawl out on the bank with wings fully developed, usually coming out in the early twilight. Their few hours are then spent in just four more events; in moulting; in a whirling dance along with swarms of other flies; mating; and laying their eggs. These they drop into the water, and soon after fall dead. They take no food, and die without seeing a sunrise. The mouth has become so rudimentary that it cannot be used for feeding, and the stomach is merely distended with gas, helping to sustain the flight.

The May fly is the only insect which moults after it has acquired wings. These cast-off garments probably play their part in scattering the hair and epidermal scales responsible for asthmatic symptoms, although most of this material must come from the bodies and wings of the immense numbers of the insects which may be washed up on the shore, or as they lie about on streets, gardens, etc. High winds may carry them inland for a considerable distance. My patient used to notice them flocking into his baggage car, attracted by the light.

Cases exactly similar to this one have been reported in the United States by Figley<sup>3</sup> in 1929, but this is the first recorded in Canada. The series reported by S. J. Parlato,<sup>2</sup> of Buffalo, was

\* The Prausnitz-Küstner test was not carried out.

caused by the caddis fly (Trichoptera), an entirely different species, although it is popularly included under the vague heading of "shadfly", as are so many others. My patient was non-reactive to the variety in this district at any rate.

There is no other record in Canada of hypersensitiveness to the May fly (Ephemera). It is more than likely, however, that other similar cases exist in this country and will be detected,

especially amongst dwellers on the shores of the Great Lakes and the St. Lawrence.

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## Case Reports

### A CASE OF TYPHOID FEVER WITH HÆMORRHAGIC ONSET

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Certain apologies are due for presenting a case of typhoid fever, but because of the comparative infrequency of this disease nowadays in a civilized community, and because of some unusual features connected with our case, we feel justified in recording it.

Case No. 25879. Miss J.L., aged 24, a French-Canadian, single, was admitted on August 20, 1933.

*History of present illness.*—On August 19, 1933, at about 3 a.m., the patient suffered a sudden profuse nose-bleed. A physician was consulted, who packed her nose. The bleeding, however, continued, and the patient was admitted to the hospital. A few days preceding this incident the patient complained of a cold in her chest, but was able to continue her work (in a biscuit factory). This was the first time in her life that she had developed a nose-bleed of such severity. She denied any injury to the head. She did not notice any abnormal bleeding *per vaginam*; no bleeding from the gums; no melæna; no hæmaturia. There was no family history of a hæmorrhagic diathesis. The patient's daily diet did not suggest the possibility of avitaminosis.

*Past and family history.*—Negative.

*Physical examination.*—Temperature 98°; pulse 140; respirations 20. The patient was a fairly well-developed, well-nourished white female, rather pale, and did not appear acutely ill. On the twenty-second day of August (two days after admission) she looked very ill,

and markedly anæmic; no icteric tinge. The tongue was dry and coated. The pulse was relatively slow, soft, and dicrotic. Temperature 103.6°; pulse 100.

The skin showed some acne; in the neighbourhood of the right elbow and on both feet and legs there were numerous small purpuric spots; in the middle of the left tibia there was a large ecchymotic area; also a few similar spots on the thighs. The left nostril was found packed. There was no apparent bleeding from the buccal mucosa. The teeth were carious. The tonsils had been removed; anterior pillars injected. A few small palpable lymph glands were found in the left axilla; no other lymphadenopathy.

The heart showed no enlargement; a thumping first apical sound and a soft systolic murmur. The aortic second sound was accentuated; blood pressure, 102/78.

The chest showed a little lagging of the left upper part; an impaired note was found over the left infraclavicular area; auscultation revealed no abnormalities.

The abdomen was of normal type; there was no distention or tenderness; it was freely movable. The liver and spleen were not palpable. The fundi revealed no abnormalities.

Hess's capillary test was positive in less than ten minutes.

*Laboratory data.*—Urine (catheterized specimen) orange-coloured; clear, acid; specific gravity 1030; albumin plus; sugar 0; a few granular casts and an occasional white blood cell and red blood cell.

Blood.—Hæmoglobin 75 per cent; red blood cells 4,680,000; white blood cells 8,200; differential count: polymorphonuclear neutrophils, 83 per cent; eosinophiles, 0 per cent; lympho-