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MULTIPLE SARCOMATA. HISTORY OF A CASE SHOWING  
MODIFICATION AND AMELIORATION OF SYMPTOMS  
UNDER LARGE DOSES OF ARSENIC.

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THE following are the chief points of interest, in giving the subjoined history, or rather histories, of this interesting case.

1. The very large dosage of arsenical solutions.
2. The extreme tolerance of them by the individual.
3. Their well-marked beneficial effect upon the growth and the individual.
4. The complete or almost complete subsidence of the tumors at various times while the treatment was under way, and their ready recurrence on suspension of same.
5. The relative obstinacy of the growths situated on the neck and head to treatment.
6. The evident delay of the ultimate lethal issue, in spite of the recalcitrancy of the patient.
7. That the treatment instituted was original in character, the author at the time of its commencement not being acquainted with the writings and experiments of Köbner and others in the same direction.

The patient, Mr. G. S. H., aged thirty-nine years, native of United States, medium height, fairly well-built and nourished, of somewhat nervous and anxious expression, was first seen by me at my office toward the end of February, 1888. He had at the time a large indolent ulcerating tumor situated on the posterior portion of the left thigh, the lower portion involving the upper part of the popliteal space; he claimed that it had its origin in irritation caused by an uneven and broken high stool, upon which he had been accustomed to sit at his duties as a clerk in an office; it first commenced as an indurated lump with inflamed border, then began to ulcerate, about four months previous to his first visit, and had become as I now saw it. He dated his earliest noted symptoms back to about a year from the date of visit. Recognizing an interesting and probably malignant trouble, I treated him a few days with placebos and cleansing applications. The New York Dermatological Society meeting of February, 1888, occurring a short time after, I presented him there for diagnosis and discussion on his case, which is reported briefly, in the April number of that year, in



the *Journal for Cutaneous and Venereal Diseases*, under the heading of "The Society's Proceedings." It was regarded as malignant by most of those present, my own opinion being that it was sarcomatous.

Ablation was recommended by almost all. He would not submit to this, and refused even to have a small piece taken out for microscopical examination.

The tumor grew rapidly larger, while the patient still deprecated any operative measures, although strongly urged, until, the indications of its malignity becoming evident even to himself, he at last yielded, and on April 15, 1888, at his own house, I removed the whole of the tumor and surroundings down to the fascia, by a nearly circular incision, the wound measuring four and a quarter inches in diameter, the tumor itself at the time measuring three and a quarter inches in diameter, so that the zone of slightly involved tissue was well included; the wound was cauterized with chromic acid and allowed to heal by granulation. Portions of the tumor extending from the free margin to the centre were examined by Drs. G. T. Elliott, A. R. Robinson, the President of the Brooklyn Microscopical Society, and myself, all coming to the same conclusion, that it was undoubtedly sarcomatous.

The progress of healing of the wound being necessarily slow, he was allowed to leave for the country (New Hampshire, his home) at the end of May; he remained away a little over a month, returning at the end of that time with still a small open sore. During this month's absence another small button-shaped and quickly ulcerating tumor had appeared on the right thigh just below Poupart's ligament, which he absolutely refused to let me excise or take other radical means to remove. He still remained inattentive as regards visits, although he said he would try any medicine, and begged for it. Later on, in the course of three months, a large number of other tumors appeared in various regions of the body; on both nates, sides of chest, over the shoulder, on the arms, were quite large ones, all of which developed more rapidly than the first in the femoral region, with which they were uniform in general appearance and mode of progression, save that there was greatly increased rapidity of development everywhere.

I had given no internal treatment to speak of up to this time, except for a short time at the end of February and beginning of March, when I tried an active course of mixed treatment which seemed to hasten ulceration, and was consequently stopped.

The same requests, as at first, for instant operation for ablation of the growths met with the same fight for delay, so that it was not until he became hopeless of any improvement without that course, that he finally consented, and on October 7, 1888, he entered Brooklyn Hospital, as my private patient, I being then on service, for a course of entirely radical treatment.

I operated on him on that day, he being under anæsthesia about two hours. I removed the tumor in the femoral region (it measured two inches in diameter) by excision; six other large ones, none being less in diameter than a silver dollar; and a number of smaller ones, about thirty in all, I extirpated partly by excision, partly by *raclage* with sharp dermal curette; cauterizing all with chromic acid around edges of wounds, and thereafter using bandages and dressings of simple cerate. I had previously resolved to test the effect of arsenic in full doses, and in a cumulative way, having a distinct belief that it would

favorably affect his condition, but must own that I was surprised at the evident beneficial effect in a relatively short time. I put him, then, about thirty-six hours after the operation, on a mixture of four parts of Fowler's to one of Donovan's solutions, to commence with eight-drop doses of the mixture four times a day, adding daily at least one drop to each dose, sometimes more, until I had him taking twenty-six to thirty drops four times a day; about that time he would usually, and sometimes before he reached that limit, show an amount of constitutional reaction, which though not as extreme as might be thought, would be sufficiently marked to show the danger limit, and the stomach would give out a little, so that it would become imperative to suspend the remedy for awhile, and give the stomach rest for a day or two, never longer, beginning immediately again with about ten-drop doses.

Many of the small tumors, half-pea sized, or even larger, which I had not curetted, disappeared in a very few days, not more than a fortnight or at most three weeks after instituting this constitutional treatment; all infiltration of the edges and areola dying away where there had been infiltration around other tumors, and on the former sites of these small tumors an atrophied spot could be felt, such as occurs in morphea or in scleroderma after subsidence of the acute lesion. He did steadily well, became able to attend to business in some measure, and in December 1888, I first took him to my friend, Dr. A. R. Robinson, who had previously been in consultation with me just before his reception into Brooklyn Hospital, for a thorough examination, and subsequently took him to the December Session of the New York Dermatological Society, when I placed him in evidence as a valuable, not to say wonderful, illustration of what arsenic can do in modifying this form of kakoplastic embryonal fibrous tissue. He then, with my permission, took cars for his native place to pass Christmas and New Year, with precise orders how to take his remedies, when to leave them off, and with most distinct and solemn promises on his part to keep me well posted as to his progress, etc. I heard thereafter *once* or *twice* from him at disconnected times; he evidently fell under influences that were not favorable, with one exception, that of Dr. S——, a practitioner of the town in which he lived, who used his best efforts to keep him in line, but failed; so that from this time I may be said to have lost control of the case.

When I next heard of him he was in the hands of Dr. John B. Wheeler, of the College and Mary Fletcher Hospital, Burlington, Vt., who kindly furnished the following complementary history:

"When Mr. H. first came under my care, February 15, 1889, he was covered with the sarcomatous growths with which you are familiar. They varied in size from one-eighth inch to two and a half inches in diameter. He was in a condition of extreme exhaustion, excessively hyperæsthetic, so that he could hardly bear a touch without screaming, sleeping with great difficulty, and almost devoid of appetite. Under these circumstances I thought it best not to begin the arsenic treatment which he said had had a very good effect on the growths but a very bad one on him, and I therefore put him on quinine, stimulants, and morphine, with the intention of building him up and of removing the growths as fast as I could. This treatment was continued until May 1st. During this time I operated on him four times, at intervals of two or three weeks, and removed in all one hundred and seventy tumors.

They were cut out with scissors and the raw surfaces thoroughly burned with the Paquelin cautery. Careful antisepsis was observed, but after granulation began the raw surfaces were dressed with balsam of Peru. Microscopical examination of the growths removed showed a structure fairly typical of sarcoma. Recurrence took place faster than it was possible to operate, and the only advantage afforded by operation was that the growths were removed when they were small. No recurrence, however, ever took place in a cicatrix, except on the scalp, where the skin surrounding the growths had become much more infiltrated than elsewhere. Everywhere else the wounds granulated well and cicatrized quite promptly, the new growths all appearing in the sound skin.

"On May 1, 1889, as the sarcomata were multiplying rapidly and the patient had got into a very fair condition of general health, I began to give him the same mixture which I believe you used, one part of Donovan's solution and four parts of Fowler's. The dose was at first ten drops, t. i. d., but as soon as I found he bore that without trouble, the dose was increased one drop every day. He stood this very well until doses from eighteen to twenty-five drops were reached (sometimes I could get him up to twenty-five, sometimes not above eighteen) when his appetite disappeared, his eyelids swelled, and he became nauseated, and very nervous and hyperæsthetic. The dose was then cut down to ten drops, when he would become all right again, whereupon the dose was again gradually increased to the limit of tolerance. He took his arsenic in this way as long as he was under my care, raising and lowering the dose according to indications, and also took from one and a half to six ounces of whiskey, and from  $\frac{1}{2}$  gr. to 1 gr. of morphine daily most of the time.

"In about four weeks it became evident that no new growths were appearing, and that those which had grown since the last operation (some thirty in number, some of them one inch in diameter and badly ulcerated) were less angry looking and were diminishing in size. By the end of June, *not the faintest sign of a malignant growth was left*<sup>1</sup> on the man (except the cicatrices showing where the growths had been), saving some half-dozen on the face and scalp, which for some reason (great vascularity of skin of those parts?) seemed to resist the arsenic with uncommon obstinacy.

"By the 20th of July, the patient had become so thoroughly poisoned with arsenic, swelled eyelids, loss of appetite, strength, nervousness, hyperæsthesia, and despondency (no diarrhœa) that I became alarmed and stopped his arsenic for ten days, at the end of this time his general health had improved greatly, but a dozen new sarcomata had appeared on trunk and extremities.

"The arsenic was resumed July 30th, in the same way as before. For about a week the sarcomata enlarged until some reached one inch in diameter, then they became less inflamed and diminished in size. No others appeared.

"By August 22d several of the growths had disappeared and the remaining ones were steadily diminishing. At this time the patient became very desirous to go to his home in New Hampshire, and as he was in fair condition and apparently able to stand the journey, I consented to his departure, which he took on that day. My only news

<sup>1</sup> Underlined in original.

from him since then is a short note written by his physician the day after reaching home, which informed me that Mr. H. had stood the journey well."

The exact date of his demise I do not now remember, but his friends informed me that it was about the end of December of that year, it being due apparently to neglect of remedies, recurrence, and consequent exhaustion.

In regard to what I have termed, at the commencement of this paper, the points of interest in this case:

*First.* While there may be records of larger therapeutic doses used than those here given, the time element also being considered, none such have come under my notice in my readings. The daily amount of arsenious acid was, as will be noticed, about a grain a day at times. As regards the mixture, which will be remembered as being four parts of Fowler's and one of Donovan's solutions respectively, I may say that I added the latter solution, not for its specific mercurial effect, but as an additional and effective absorbent or resolvent agent.

No doubt as to correctness of diagnosis is probable—the high grade of examiners renders that impossible; but should such doubt exist, the balance of the larger tumor is still in alcohol in my possession, and is at the service of anyone interested in the subject.

*Second.* The tolerance, as was evident, was exceedingly marked, and the very rapid disappearance of toxic symptoms on cessation of the remedy was peculiarly so; in a couple of days, ordinarily, all such symptoms, gastric or other, would entirely disappear. This, however, I do not think unusual, as a good many patients suffering from psoriasis whom I have treated at some time by arsenic in the course of their disease, have shown the same ready disappearance of bad effects.

*Third.* It is now scarcely necessary to say anything as to the effect upon the individual or the tumors; as to the latter the history speaks, but as to individual it may be further said that while he was under observation the fairly large doses (not those near the toxic mark) seemed to benefit and improve nutrition and strength.

*Fourth.* The subsidence of the tumors on taking the remedy has also been sufficiently dwelt on in the histories, but it would seem important to call attention once more to the fact of their extremely rapid recurrence on disuse of the remedies; this was very marked, and seemed to be very like a problem in arithmetical progression; the more tumors present, the more rapidly would others develop in other parts, and the more readily would ulceration in the larger ones begin and continue.

*Fifth.* The relative regional obstinacy in regard to treatment. This was noted by Dr. Wheeler particularly, and though not so specially noted in my history, was observed by myself. To particularize: At the time of operation in the hospital, I purposely left one growth on the neck,

above the collar, in order to better observe its conduct while under constitutional treatment: precisely that one, and one or two others on the scalp, were the slowest to respond, persisting after others had entirely disappeared. I have noted this fact before, and in an article read before the American Dermatological Association, "Remarks on, and Queries as to, the Relative Frequency of Pathological Changes in Moles and other Tumors on the Face and Head," which was published in the *Journal of Cutaneous and Genito-urinary Diseases*, January, 1887, I use the following words: "There are many other parts of the body, it would seem, equally or more exposed to these accidents than the carefully guarded face; as for instance the hands, nates, waist, and neck; the two latter from constant friction of clothing and other causes. Moles and other small tumors are sufficiently common on all parts of the body, but it would appear by the statistics given, and by other experiences of the writer, that the ratio of further and destructive pathological activity is much less in them (that is in all other parts of the body) than on the head and face." Further: "The most rational way of solution or accounting for the frequency of these growths on the site mentioned is probably that it is after all due to the extent, nature, and abundance of circulatory nutrition, which must favor hyperplasia in these well-supplied parts," etc.

*Sixth.* Delay of lethal effects of the disease I shall not dwell upon; it was certainly evident to all having any close connection with the case.

*Seventh.* As has been stated, though it may read as a confession of carelessness on his part, the author at the time of inception of constitutional treatment was ignorant of the records of recent experiment of others in the same direction. He had, however, been long convinced of the inhibitive efficiency of the drug in other malignant affections, notably epithelioma, and has been very lately additionally confirmed in this by many cases, among which may be cited a recent and marked one of genital epithelioma; a secondary operation having been done, followed by a third, to remove immensely involved inguinal glands and tissue. The operation was brilliantly and radically performed by one of New York's leading surgeons; but all the consulting medical men (at least five in number, including myself) decided it was impossible, or almost so, for recurrence not to rapidly take place, and the patient was by general verdict given anywhere between three and six months to live. This occurred about a year since. Arsenical treatment, at my suggestion, has been since employed. The individual is now living and enjoying better health apparently than for some years previous. This conservative result, I believe, has been largely due to the result of this constitutional treatment.

Dr. H. Köbner's writings and cases came under my observation some months after inception of my treatment, but since that had acted

so well, I did not feel like "changing horses while crossing a stream," and persevered with internal medication.

It will be noted that Dr. Köbner gave his arsenic hypodermatically, which doubtless has its advantages, but also its disadvantages, as causing slight wounds and points of irritation.

I do not see why the conjoined treatment, internal and hypodermatic, might not be used with greater benefit than either alone, or at least so, where rapid results seem necessary.

His papers will be found in the *Berliner klin. Wochenschrift*, 1883, page 21, under the title of "Heilung eines Falles von allgemeinen Sarcomatose der Haut durch subcutane Arseninjection." Also, in 1886 (*ibid.*, p. 193), there is report of a case shown at a meeting of the Berlin Medical Society, under the heading "Vorstellung eines Falles von multiplen Hautsarkomen der Extremitäten."

Dr. Funk, of Warsaw, in the *Monatshefte f. prakt. Dermatologie*, 1889, viii., page 19, publishes an exhaustive article under the title of "Klinische Studien über Sarkome der Haut," giving histories of cases of his own in which he had followed Köbner's plan of treatment, and a general *résumé* of the subject and writings thereupon. The article would serve as a bibliographical index. He recommends, as does Köbner, the injection of a recent solution of arsenite of soda, as being on the whole the best.

As I have before said, the union of the internal and hypodermatic methods would, however, in my opinion, seem to offer the best future therapy.

