SOME POINTS IN THE INTERNAL TREATMENT OF GONORRHOEA.

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Although I have invariably placed local treatment for gonorrhœa far in advance of any internal remedies absorbed through the mouth and the digestive tract, yet I have been forced to admit that many cases exist in which, when local measures have necessarily to be stopped for a time (orchitis, epididymitis, cystitis), it is still imperative to continue the specific treatment of the discharge. Balsams have for years been acknowledged as the best internal remedies for gonorrhoea. Their action, however, has never been properly understood. It has been assumed that the constituents of the balsams rendered the urine antiseptic; now it has been shown by H. Vieth that whilst the antiseptic power of “balsam urine” is by no means great, it exhibits a decided power of allaying inflammation and of constricting blood vessels, and thereby a sedative and astringent action on the hyperæmic mucous membrane is produced tending to arrest the discharge. The two principal balsams put forward as useful in the treatment of gonorrhœa are the balsam of copaiva and the balsam of sandalwood oil. Balsam of copaiva, whether alone or in combination with cubebs, in the form of the French “opiat,” has been employed for many years as an internal remedy for a urethral discharge. In my own practice, both hospital and private, I have absolutely discarded this drug for a considerable period, principally on account of its nauseous taste, which not only renders the taking of it through the mouth exceedingly unpleasant, but also, even when the drug has been absorbed, disguised in capsules, hosties, etc., still remains to annoy the patient by the odour in his secretions and in his breath; besides these drawbacks, I have often seen a profuse papular eruption on the skin as the result of its administration. Another point, which I think has not been sufficiently insisted upon, is that copaiva, although acting more especially on the genito-urinary mucous membrane, has also a stimulating effect on other mucous membranes, such as those of the stomach and intestines, thereby causing nausea, indigestion, and purging, this latter, it is needless to say, being a most undesirable action. On the other hand, I am far from asserting that the action of copaiva on urethral discharges is not favourable. It is difficult to understand its curative properties, for it has been proved that, applied locally as an injection, it fails to produce its effect. The best explanation is the one given by Vieth with regard to “balsam urine,” as mentioned above.
All the foregoing remarks concerning copaiva may be applied to sandal-wood oil, excepting that administration of the latter never, in my experience, produces a rash on the skin; but, on the other hand, the nephritic congestion it sets up is more severe than that produced by copaiva; the proportion of cases in which the remedy has to be discontinued is, I have found, far larger in the case of sandal-wood oil than of copaiva. However, sandal-wood oil has during the last few years become the fashion as an internal remedy for urethritis, and although I by no means think its curative action on the urethral mucous membrane is superior to that of copaiva, still sandal-wood oil, though nauseating, is not so nauseating as copaiva, either in the mouth or in the stomach and intestines; therefore, in the small number of cases in which, for various reasons, I have considered an internal remedy to be indicated, I have prescribed sandal-wood oil.

Internal remedies for gonorrhoea can only, in my opinion, be looked upon as adjuncts to the treatment by injections, for no drug administered through the mouth has been proved to have a bactericidal effect on the urethral mucous membrane. It is evident that to deal with the gonococci a bactericide must be brought into direct contact with them. The scope and title of these observations do not permit me to deal with the external treatment of the malady; I will therefore confine myself to the consideration of the two principal balsams I have mentioned, namely, copaiva and sandal-wood oil. With reference to the latter, I was much interested in an article by Drs. H. Vieth and O. Ehrmann. The work of these gentlemen consisted in testing practically on the human subject pharmaceutical results obtained by investigations based on the separation of the balsams into their constituents. Four different classes of substances, standing in close relationship to each other, were isolated, namely—(1) Terpenes, (2) terpene alcohols, (3) resin acids, (4) resins and other neutral gums and esters.

By experiment it was proved that only the last of the four groups does not give rise to the secondary actions of the balsams, i.e. irritant effects on both stomach and kidneys; but these effects were markedly caused by the other constituents of the balsams, especially by the two first. East India sandal-wood oil belongs to the terpene alcohol group, 90 to 95 per cent. of the oil consisting of the terpene alcohol santalol. Even moderate doses of what is called pure sandal-wood oil generally produce gastric disturbances in rabbits. To obtain a non-irritant preparation for the therapeutic use of sandal-wood oil, Vieth and Ehrmann found it necessary to change the chemical composition of the oil in such a way as to convert it into a resin-like substance, and this they achieved by converting sandal-wood oil into the neutral ester of an organic acid, preferably salicylic acid. They assert that the salicylic ester

1 *Deutsche med. Wchnschr.,* Leipzig, 1906, No. 2.
of sandal-wood oil is better than the other esters, such as benzoic or carbonic acid esters, in that it splits up in the organism, and liberates not only santalol, but also salicylic acid. The name santyl has been given to this salicylic acid ester of sandal-wood oil.

Santyl contains 60 per cent. of santalol chemically combined with the salicylic acid in the form of the ester, and is asserted to pass through the stomach without causing any irritation, and then to slowly split up into its components, the gradual nature of the chemical change being very important, as it reduces any irritant action to such an extent that no kidney pains occur, and, besides, no sandal-wood odour is evident in the breath of the patient. With regard to the absence of kidney pains, I was very interested in a case which will be found quoted below (C. D.). The patient stated that he had suffered from pains in the region of the kidneys when taking sandal-wood oil some months previously, so that when I prescribed santyl for him I requested the resident medical officer to watch the case carefully, and to discontinue the santyl should the slightest sign of kidney trouble supervene. It was not found necessary to do this, as the man never developed a sign of his old pain (although he himself was always on the look-out for it, as it was difficult to make him understand that the liquid in the capsules was not sandal-wood oil).

Vieth's and Ehrmann's assertion that santyl is almost odourless and tasteless, I personally verified by placing on my tongue a drop of the oil, which I kept in my mouth for a short time; it has a very slight taste and odour, neither of which, however, is at all unpleasant.

The following cases are valuable, inasmuch as the patients were all in-patients, kept under observation from the beginning of their treatment by the remedy.

Although repeatedly questioned on the subject, not one of the cases treated (by me) with santyl objected to the taste of the remedy; none of them were nauseated either when taking the santyl or after its absorption; there were no eructations, there was no vomiting or diarrhoea, no gastro-intestinal irritation, no pain referable to the kidneys, no albuminuria. The curative—or, to speak more correctly in referring to any internal remedy for urethritis, the palliative—action is, as far as can be observed in the following cases, on a par with, if not superior to, that of copaiva or sandal-wood oil, the superior action, if any, being probably due to the liberation of the salicylic acid; to absolutely assert this, however, would probably necessitate more exhaustive observations; but, ceteris paribus, santyl recommends itself by having no nauseating taste, and by the fact that its administration, as far as has been proved, does not produce disagreeable or dangerous secondary effects.

As an adjunct to external treatment, or without external
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treatment, when the latter has to be suspended for a while, it should, after its advantages and properties have been strictly verified, be of great service in urethritis, but in my opinion I consider santyl, like any other internal so-called specific remedies for gonorrhoea, to be more adapted for the treatment of chronic urethritis (such as gleet) than of acute urethritis (first stage of gonorrhoea), as I mentioned elsewhere with reference to copaiva.

Case 1.—A. E., æt. 25. Admitted into the French hospital on 26th April 1906 for orchitis and epididymitis on the left side; cord not thickened. Six weeks previously the man had contracted gonorrhoea, which he had neglected, and was now only partially cured. Local treatment was applied to the testicle, and santyl ordered 20 minims ter die.

On 1st May the testicle and epididymis were very much better, in fact nearly well, consequently the discharge had increased. To continue santyl.

May 5.—Less discharge; patient questioned closely as to irritation, bad taste in the mouth, gastro-intestinal disturbances, lumbar pain; but he denies having experienced any of these. No albumin.

May 8.—Discharge nearly gone. Patient left the hospital on 10th May at his own request, having only a very slight discharge in the morning.

N.B.—This case is a good test, as no injections were used during the patient's sojourn in the hospital, only a saline purge was administered when he came in, so the good effect on the discharge could only have been produced by the santyl.

Case 2.—A. B., æt. 23. Came in with epididymitis, not very acute, on 1st May 1906. He stated that his discharge came on fifteen months before, and that he had been treated with injections and sandal-wood oil, but had never been cured; there was a considerable amount of discharge.

Santyl was ordered and local treatment for the epididymitis. On the second day, the epididymitis being nearly well, the resident medical officer gave him an injection of argyrol. On 5th May, the discharge having ceased, the injection was discontinued. The patient was still given santyl.

May 8.—Slight watery discharge to be seen on squeezing the penis.

May 15.—Still slight discharge.

May 18.—I gave orders for the patient to discontinue taking coffee in the morning, a point I had overlooked. The patient went out on 21st May, the discharge having ceased. During his stay there had never been any nausea, eructations, gastro-intestinal disturbance, or kidney pain.

Case 3.—C. D., æt. 22. Admitted for a gleetly discharge and balanitis on 25th April. He stated that he had contracted gonorrhoea eighteen months previously, and had been treated with injections and sandal-wood oil. Santyl was prescribed in capsules, also appropriate treatment for the balanitis. He did not like the idea of the capsules, which he
thought contained sandal-wood oil, as he had suffered from severe kidney symptoms whilst taking the latter drug. However, after explanation, he followed out the treatment.

*May* 1.—Still slight watery discharge. Balanitis much better. No nausea, eructations, gastro-intestinal pain, or kidney symptoms.

*May* 4.—Only very slight discharge in the morning on squeezing the penis.

*May* 8.—Pains in the joints. The resident medical officer had given a mixture containing pot. iodid. Discharge in the morning only very slight.

*May* 11.—Hardly any discharge. Stop santyl, but continue mixture. Still very slight discharge.

*May* 15.—Resume santyl, and only take medicine twice a day. Still very slight discharge.

*May* 18.—Still slight discharge, though less. Give inj. rubra. Stop the morning coffee as in Case 2. Went out on 21st May. No discharge even in the morning.

**Case 4.**—C. G., æt. 19. Admitted 7th May 1906 with a thick purulent discharge and pain on micturition; had contracted gonorrhoea ten days ago. Santyl was ordered, also a mixture containing pot. bicarb., hyoscyamus, pareira and buchu.

*May* 11.—Inj. of argyrol ordered.

*May* 15.—Stop injection, as it has caused inflammation and ardor urine. As in Cases 2 and 3, I stopped the morning coffee; from this period the patient improved rapidly. Slight symptoms of cystitis supervened, for which, urotropin was administered, and he left the hospital on May the 28th, having only a very slight discharge as his sole symptom.

**Case 5.**—J. B., æt. 20. Admitted on 2nd July 1906, suffering from acute epididymitis on the left side; no thickening of the cord. There was a discharge from the urethra, which the patient stated had lasted for two months, but which (as is always the case) had very much diminished when the epididymitis set in. A saline purgative mist. alb. was prescribed three times a day, hot fomentations applied to the testicle, and fifteen minims of santyl ordered three times a day. Under the local treatment the acute inflammation of the epididymis gradually subsided. At the end of eight days the pain had greatly diminished; but, as is usual in these cases, the discharge from the urethra increased as the testicle got better. There being slight discomfort about the neck of the bladder when the urine was passed, a medicine containing pot. bicarb., tinct. hyoscyam., and inf. uve ursi was prescribed, the santyl being persevered with. Eight days afterwards the discharge was nearly well; glycerine of belladonna was being applied to the testicle. The testicle was quite well at the termination of another eight days, a very slight watery discharge remaining from the urethra, for which inj. rubra was given. The patient went out on 28th July perfectly cured.

There was not a sign during the whole treatment of any nausea, gastro-intestinal disturbance, or lumbar pain being caused by the santyl, neither could any sign of the drug be detected in the breath. It certainly produced a good effect on the urethral discharge, which it
rapidly diminished; and the recrudescence of the discharge after an orchitis or epididymitis is always, in my opinion, most difficult to cure.

**Case 6.**—E. D., æt. 25. Admitted on 28th July 1806 with not very acute balanitis and also difficulty in getting back the foreskin, which was rather long. The appropriate remedies were applied for the balanitis, and in two days, it being then possible to see the meatal orifice, a discharge was seen to be proceeding from the urethra. I myself verified that the discharge came from the urethra, and was not simply that of the balanitis; the patient, moreover, acknowledged to having contracted gonorrhœa a fortnight previously. Santyl was prescribed, 15 minims ter die. Three days later the foreskin could easily be pulled back, and undoubtedly the drug had produced a very beneficial effect on the discharge, which had nearly disappeared. Inj. rubra was ordered, and the drug continued. The man left the hospital on 4th August. The balanitis was quite cured, and no discharge could be seen coming from the urethra; but the patient was given both inj. rubra and santyl to take home with him, and cautioned to leave off his treatment very gradually: I have so often seen the discharge return in quickly cured cases when remedies are suddenly discontinued. There was no intestinal, kidney, or lumbar disturbance in this case; no nausea, and no smell of the drug in the breath.

**Case 7.**—G. F., æt. 23. Admitted on 7th August, suffering from slight orchitis of the left testicle, the epididymis being principally affected. The gonorrhœa had been present for a fortnight. No thickening of the cord. Being absent from town, I did not see the patient till 14th August. He had in the meanwhile been treated by local fomentations. Ferri et quinine citras ter die had been prescribed, as the man was pulled down and anaemic, and a calomel purge was given on the day of admission. On the 13th the affection of the testicle was cured, only slight hardening of the epididymis remaining; so the resident medical officer had ordered an injection of argyrol, 2½ per cent. When I saw the case on 14th August there was a fairly abundant thick discharge. I prescribed santyl, 15 minims bis die; the injection to be continued, and a mixture of ferri tartratis and glycerine given internally. On 20th August no discharge could be seen, and the patient left the hospital on 21st August, with the same cautions as in Case 6.

During the treatment there was no intestinal, kidney, or lumbar symptoms, no nausea, and no smell of the drug in the breath. In this case the santyl had an excellent effect, but was certainly powerfully aided by the argyrol injection. The case also shows what I have personally always maintained, namely, that an injection can be ordered the instant the acute symptoms of orchitis have been brought under.

**Case 8.**—E. E., æt. 21. Admitted on 11th August with acute gonorrhœa, and a considerable amount of swelling and irritation of the prepuce. He had had the discharge for five days. Fomentations were ordered locally, and mist. alba prescribed. I first saw the patient on 14th August. The penile inflammatory signs had subsided, and I was glad to be able to try santyl in an acute case of recent origin. 15
minims *ter die* was ordered and regularly continued for six days. I then found the discharge much diminished and less thick. There had been no pain or ardor urine, the absence of which, as I have before very often pointed out, being most astonishing, considering the virulent-looking discharge. I ordered the santyl to be continued, and in addition prescribed inj. rubra (half strength), a saline purge to be taken in the morning when necessary. The patient left the hospital on 26th August, there being still a slight discharge. He was given the remedies, and cautioned like the two preceding cases. The santyl caused no intestinal, lumbar, or kidney disturbance; no nausea or smell in the breath.

**Case 9.—L. B., æt. 34.** Admitted late on 14th August for gonorrhoeal rheumatism affecting the left knee-joint. For this, appropriate remedies were given, principally iodide of potash; hot compresses, and linimentum pot. iod. cum sapone were ordered locally. There was a yellowish-white, not very abundant, discharge from the urethra. For this the resident medical officer had given an injection of argyrol, 2½ per cent. On seeing the patient on 15th August I did not think it necessary to prescribe santyl, as the man was already being treated internally for the arthritis. The man's knee gradually got better; the discharge also diminished; but as it was still present on 25th August, I tried 15 minims *bis die* of santyl. The patient went out on 27th August, there being scarcely any discharge left. He was given his remedies, and cautioned in the same way as the preceding case. The drug produced no nausea or smell in the breath, and no intestinal, lumbar, or kidney disturbance.

The results of the administration of santyl in these cases are undoubtedly very encouraging. Its curative effect on the urethral discharge is certainly as powerful as that of any other internal remedy, whilst it has the enormous advantages of not disturbing the digestive functions and of not causing nausea or any odour in the patient's breath.