VAGINAL ULCERATION DUE TO POTASSIUM PERMANGANATE

BY

E. A. J. ALMENT, M.R.C.O.G.

*Late Registrar, Department of Obstetrics and Gynaecology,
London Hospital; late Junior Registrar, Department of
Obstetrics and Gynaecology, St. Bartholomew's Hospital*

AND

C. S. NICOL, M.D., M.R.C.P.

*Medical Officer in Charge, Special Treatment Centre,
St. Bartholomew's Hospital; Assistant Physician to the
Whitechapel Clinic, London Hospital*

Over 100 cases of vaginal ulceration following the insertion of potassium permanganate tablets for the purpose of procuring an abortion have been described since the first account of this condition by Lacassagne and Friess in 1932. Voron, Rochet, and Contamin (1935) reported a case in which severe arterial bleeding resulted from the ulceration in the vagina. Shull (1941), among 17 patients with a similar condition, followed up four in whom pregnancy was confirmed; only one patient miscarried. The largest series has so far been described by McDonough (1945). Of 65 patients, 34 required packing of the vagina to control the bleeding and 12 needed transfusion. In 40 patients pregnancy was confirmed; six miscarried, and one was delivered by caesarean section on account of scarring following the vaginal ulceration. Blondin, Benassy, and Masse (1948) added two more cases. Jetter and Hunter (1949) described the case of a woman who died after using a douche of saturated permanganate solution containing a total of over 7 g.

The first account in the British literature was reported by Miller (1951), who described 10 cases. In some of these he found ligation of arterial bleeding points in the base of the ulcer necessary, and formed the opinion that pregnancy remained undisturbed unless the tablets were introduced into the region of the cervix. Henderson and Watt (1951) reported that they had seen cases for many years, and caesarean section had been necessary in three on account of scarring of the vagina.

The following four cases seen at St. Bartholomew's and the London Hospitals are described to draw further attention to the widespread practice of using potassium permanganate, especially in tablet form, as an "abortifacient," and to deprecate the method as an effective means of terminating pregnancy. In the first case, seen in the gynaecological department at St. Bartholomew's Hospital, although typical vaginal ulceration was present the use of potassium permanganate tablets inserted direct into the vagina was not established. One of the other three cases was seen in the gynaecological department of the London Hospital, and a history of using tablets followed by vaginal bleeding was obtained, but no vaginal ulceration was seen. The remaining two patients first attended at the Whitechapel Clinic of the London Hospital. In both these cases the diagnosis was fully established and photographic records were made.

Case 1

A 33-year-old woman aged 38 attended St. Bartholomew's Hospital on November 25, 1950, with vaginal bleeding in pregnancy. Her last regular period had begun 23 weeks before attending. Vaginal bleeding, she stated, had occurred two weeks

later, and had continued intermittently until a heavy loss a week previously, after which it had ceased. She admitted using a douche made up with potassium permanganate tablets, but denied inserting any of these tablets directly into the vagina.

Examination showed a healthy woman; the uterus was enlarged to the size of 24 weeks' gestation, and the foetal heart was audible. In the vagina were two apposition ulcers, one in the anterior and one in the posterior wall, about 5 cm. from the introitus. A grey slough was present in the base of each, and both bled readily to the touch. Routine investigations in the special treatment centre, including dark-ground examinations, all proved negative. During the next two weeks healing of the ulcers took place with no scarring, and arrangements for antenatal care were made, but the patient subsequently defaulted.

Case 2

A single nulliparous girl aged 16 was admitted to the London Hospital on January 19, 1952, on account of vaginal bleeding in pregnancy. Her last regular period had begun 22 weeks previously. Twenty-four hours before admission, she stated, she had inserted two tablets of potassium permanganate into the vagina. A few hours later she experienced slight pain in the lower abdomen associated with bright vaginal bleeding.

Examination showed a healthy girl with the uterus enlarged to the size of 22 weeks' gestation. No vaginal ulceration was seen on examination with a speculum. Pregnancy was confirmed by an Aschheim-Zondek test, and the patient gave birth to a live premature infant 12 weeks later.

Case 3

A single nulliparous woman aged 22 attended the London Hospital on February 14, 1952, with a history of pain and swelling of the vulva for two days associated with dysuria. Her last regular period had begun five weeks previously; the normal cycle was 28 days.

Examination showed two shallow apposition ulcers with greyish bases 1.5 cm. in diameter on the inner aspect of the labia minora. Black debris which was scattered elsewhere over the vulva consisted of manganese dioxide produced by the breakdown of potassium permanganate. On passing a speculum another two apposition ulcers, circular and deeper than those on the vulva, were seen in the anterior and posterior vaginal walls just below the level of the cervix, with a disintegrating tablet *in situ*, and further brownish-black debris was scattered over the vaginal wall. All routine investigations, including dark-ground examination of the ulcers, proved negative.

It was only on further questioning that the patient gave the following details. Eight days before attending, fearing she might have conceived, she had inserted tablets into the vagina just before her next period was due. She had worn a sanitary pad to retain them. Heavy vaginal bleeding had ensued. It is assumed that the vulval ulceration had been caused by one of the tablets slipping down between the labia shortly after insertion. On her next attendance the patient brought for inspection a tablet similar to those she had inserted. This was analysed and found to be a compressed tablet of 5 gr. (325 mg.) of potassium permanganate.

During the next four weeks the ulcers healed completely without residual scarring. The cervix became softened and the uterus enlarged; three weeks after the patient first attended an Aschheim-Zondek test confirmed that she was pregnant.

Case 4

A single nulliparous woman aged 28 attended the London Hospital on May 13, 1952, with a history of brown vaginal discharge. The last menstrual period had been nine weeks previously. Her normal menstrual cycle was 28 days, and, believing herself to be pregnant, she had inserted three tablets of potassium permanganate into the vagina three days before

attending. Slight bleeding began the following day. She produced a bottle of 100 2-gr. (130-mg.) tablets of potassium permanganate which she had obtained from a chemist.

Examination of the vagina with a speculum revealed a deep circular ulcer 1.5 cm. in diameter on the portio vaginalis of the cervix to the right of the external os. A similar ulcer lay in apposition on the right vaginal wall (see accompanying photograph). Much black debris was present in the vagina. The cervix was soft, and the uterus enlarged to correspond with the period of a menorrhoea. Routine investigations, including dark-ground examinations of the ulcers, were negative. The Aschheim-Zondek test was positive. Analysis of one of the tablets confirmed that it was potassium permanganate.

Photograph showing appearance of cervix and posterior vaginal fornix in Case 4.

At subsequent attendances the ulcers were seen to heal slowly and spontaneously, and after three weeks' observation no trace of them, and no scarring, remained. The patient miscarried one month later as a result of interference of a different kind.

Discussion

Of the four cases described, three were found to have the characteristic apposition ulcers produced by potassium permanganate in high local concentration. Three patients gave a history of inserting tablets to achieve abortion; the remaining one admitted only using a solution of tablets in a douche, although typical circular vaginal ulcers were found. Bleeding occurred in all four cases, although in none was it enough to warrant the measures described by other writers. Abortion did not occur as a result of the use of tablets in any of the patients. This conforms to the experience of others that the agent is not usually an effective abortifacient. It should be noted that two patients first attended at a gynaecological out-patient department, and two at a special treatment-centre. A history of pregnancy may not be forthcoming, the irregular bleeding being the only complaint. The use of tablets may not be admitted initially by the patient. Therefore correct diagnosis of the condition may rest upon finding the characteristic circular apposition ulcers in the lower genital tract, with the remains of a tablet or the brownish-black debris of manganese dioxide still *in situ*.

The similarity of these ulcers to primary chancres in the male was pointed out by Blondin *et al.*, who described the practice of certain legionaries who lingered by inserting a tablet of potassium permanganate under the prepuce. A provisional diagnosis of primary syphilis in women with lesions suggesting contact chancres is therefore likely to be made until full investigations, including dark-ground examination and serological tests, fail to confirm the diagnosis. It is then that further questioning may reveal the true history of the use of potassium permanganate tablets as an abortifacient.

2-gr. and 5-gr. (130-mg. and 325-mg.) tablets of potassium permanganate are readily obtainable at chemists. There is no restriction on their sale.

Summary

Four cases of bleeding following the insertion of potassium permanganate into the vagina in pregnancy are described.

The use of this chemical in tablet form was confirmed in three cases.

The typical ulceration produced is illustrated by a photograph.

The tablets used in two cases were subjected to chemical analysis.

The possible confusion of the lesion with primary chancres, especially in patients who conceal the true history and first attend at special treatment centres, is pointed out.

The common use by women of potassium permanganate in tablet form for procuring abortion and the ease with which it may be obtained for this purpose are stressed. It does not appear to be an effective abortifacient.

ADDENDUM.—Since preparing this report one of us (E. A. J. A.) has seen a fifth patient, in whom very heavy bleeding was caused by the vaginal ulceration. A single girl aged 19, who subsequently admitted inserting tablets of potassium permanganate into the vagina for fear of pregnancy, was admitted on account of a sudden profuse haemorrhage. After half a pint (285 ml.) of fresh blood clot had been removed from the vagina, ulcers were seen on the anterior and posterior walls. The anterior ulcer had eroded the wall of a large artery, which was bleeding freely. Ligation of the vessel was necessary.

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Launching the autumn recruiting campaign for the National Hospital Service Reserve last month, the Minister of Health, Mr. Iain Macleod, said that in order to be ready to meet the demands of war the Reserve must increase its present strength of 30,000 volunteers to 100,000. He hoped that the new drive for recruits would carry the total well on its way to this target. The Reserve had its role in peacetime too, in dealing with the emergencies of everyday life. "We have had some pretty grim reminders of this in Lynmouth and the East Coast floods and two terrible railway disasters within the last twelve months," he said. "It may not be generally realized," he continued, "that each year there are over one million serious accidents in our homes—serious enough, that is, to require treatment in hospital—and that another 200,000 injuries occur on the roads. With these facts in mind I ask myself: Should not every man and woman have some training in first-aid and simple home-nursing, and would not women gain in confidence and competence if they added practical knowledge of first-aid and simple nursing to their many other accomplishments? The chances are that each one of us some time in our lives will be confronted with a serious accident or injury in our homes, at work, on holiday, or on the roads. We all dread the possibility, but knowledge and training would take the dread out of such occasions, substituting confidence and competence for fear and futility."