There is still much to be learnt about all abnormalities of carbohydrate metabolism, and particularly about those associated with an unusually low blood sugar level, but opportunities for investigation are by no means rare, as the number of cases I have met with in a comparatively short period indicates. I hope this paper may be the means of directing the attention of others to what is, I believe, a matter of considerable clinical importance.

REFERENCES.

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FLAVINE IN PERINEAL DRESSINGS.*

BY

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THE success of plastic operations on the vagina depends largely on the nursing and after-care received by the patient. Though it is comparatively easy to adopt an adequate operative technique it is sometimes difficult to ensure the healing of the wound by first intention.

The circumstances which may interfere with healing are obvious. The suture line is never dry, being made wet by discharge from the cervix, by menstrual flow, by micturition, and by perspiration. The part is not only constantly wet, but it is bathed in organisms; cervical discharge is never sterile. The skin is always liable to contamination during defaecation, while the urine of many patients subjected to this operation is infected with the *Bacillus coli*. This last circumstance I have found most troublesome of all. The repeated wetting of the wound by infected urine (of which some drops always ascend to the vagina if the patient be recumbent) is, I believe, the most common cause of sepsis following vaginal operations. The infected discharges cause catgut to separate early and silkworm-gut to cut out. Taking these circumstances into consideration it would appear extraordinary that such a wound ever heals by first intention.

I have used a variety of treatments and dressings, pre-operative and post-operative, the common object being to disinfect the vagina before operation, and afterwards to cleanse the wound after each micturition by swabbing with a mild antiseptic and then to apply a dry dressing. I have tried mercury biniodide, eusol, milton, saline, picric acid, iodine, and flavine in water, and I have come to the conclusion that to wash a clean wound with a watery solution of any antiseptic is bad surgery, and that a perineal wound must above all else be protected from urine.

In one of the hospitals to which I am attached patients who have had vaginal operations are allowed to pass water twice only in twenty-four hours, and then in a kneeling position. The woman kneels over a small chamber, her forearms resting on a pillow laid across her thighs. It is difficult to persuade a private patient to adopt this procedure. I have even tried keeping the perineum dry by allowing micturition only through a small funnel held directly below the urethra, but with varying results. The straightforward cases did very well; others gave trouble, one or more stitches giving way too soon, and healing was completed by granulation, the result being more or less imperfect.

My troubles culminated in a case in which I had done a Fothergill's repair, and on the twelfth day I returned from a Sunday's excursion to find that the lady had had a severe secondary haemorrhage; the city had been searched for help, and after some delay a colleague had kindly come to the rescue and packed the vagina. The haemorrhage was due, of course, to sepsis. On removing the pack the bleeding recommenced, and, finding nothing to tie, both colporrhaphy wounds being laid bare in their upper parts and the raw surfaces oozing, I cast about in my mind for some antiseptic lubricant which would clean up the infection and would not dislodge clots in the vessels when with-

drawn. I thought of an emulsion of flavine in paraffin, which I had seen used in prophylactic disinfection of the abdominal wall after laparotomies. I irrigated the vagina to get rid of the offensive clot, then packed with gauze soaked in the emulsion. I was amazed at the speed and completeness with which the sepsis cleared up and the wounds healed.

Since that time, two and a half years ago, I have used this emulsion of flavine in paraffin as a routine dressing in all perineorrhaphies, to my great comfort and success. I use it as a protective dressing. As a rule I wait for twenty-four or forty-eight hours, so as to allow the natural sealing of the wound by serum, then at latest on the third day, the day on which aperient is given and before the bowels are opened, I start dressing with a narrow strip of gauze about three inches long, soaked in the emulsion, applying it by means of a forceps laid upon the colpoperineorrhaphy wound. A little of the emulsion enters the vagina and protects the colporrhaphy wounds higher up. The dressing is renewed after each micturition. The results have been most happy. When operating now for the cure of prolapse I know that with reasonable nursing the wound will heal by first intention, and that the ultimate result will approximate very nearly to the immediate result obtained when the patient leaves the table.

I have also used this emulsion to my satisfaction as a perineal dressing after craniotomy in cases where previous futile attempts to deliver by forceps had caused great bruising of the vulva. It is made up at a strength of 1 in 1,000, though probably in greater dilution it would be equally effective.

FLAVINE IN GENERAL SURGERY.

BY

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THE three following cases illustrate the value of flavine as a bactericide and as an antiseptic in general surgery.

Traumatic Moist Gangrene of Arm.

On October 25th, 1929, a native woman, aged about 24 years, was brought by canoe to Mongu from Libonda, on the upper Zambesi River about three days away, suffering from moist gangrene of the right arm. The history of this case was that, about two months previously, the woman ran into her finger a piece of wood, which she removed with a needle. The hand swelled up and, as she described it, became rotten. When I saw her there was massive necrosis of the limb, extending up to the junction of the lower and middle thirds of the right arm, where a line of ulceration had formed, revealing necrosed bone. Above the area of ulceration the gangrenous process was extending through the tissues of the arm, which were oedematous and greenish-black in colour, from which very fetid yellow pus was oozing copiously. The skin on the inner side of the arm was involved right up to the axilla. The patient was greatly debilitated, and looked very toxic.

Amputation through the shoulder-joint was impracticable owing to the high involvement of the skin on the inner side of the arm, and the patient's condition would not have tolerated such a formidable procedure as an interscapulo-thoracic amputation. I did a guillotine amputation of the arm a handbreadth below the joint, cutting through living tissue as much as possible, ligated the vessels, and treated the stump as an open wound, using flavine (1 in 1,000) dressings only. The result was dramatic, the foul sloughing tissue becoming bright red, and clean within four or five days. The patient is making an excellent recovery, the temperature since the operation having been absolutely normal.

Traumatic Moist Gangrene of Leg.

On May 17th, 1928, a male native, aged about 35 years, was brought to Mongu for treatment, suffering from spreading moist gangrene of the right leg and thigh. The history of the case was that three months previously, when proceeding to seek work, the patient developed a small sore on the dorsum of the right foot, on the Lui River, three or four days from Mongu; he could not say if the sore was due to an injury or not. The foot became swollen, rotted, and dropped off at the ankle-joint; the disease spread up the leg, which fell off at the knee-joint.

When I saw him about 3 or 4 inches of the lower end of the femur were protruding; the bone was black and necrosed, and a necrosed patella was adherent to the muscles, which were a greenish-yellow pultaceous mass, from which a horribly offensive yellowish pus was freely exuding. The gangrenous process was

* Abstract of a paper read before the North of England Gynaecological and Obstetrical Society at Liverpool, October 25th, 1929.