REPORT ON A CASE OF GANGRENE OF THE VULVA, VAGINA AND CERVIX FOLLOWING ABORTION AT THE SIXTH MONTH.

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This patient, M. G., 22 years of age, married, para II, C. No. 13529, was admitted to the wards of the Lying-In Hospital in June, 1908, with the following history.

About ten days before admission, being about six months pregnant, she began to bleed without apparent cause; there was no history of any attempt at interference with a view to terminating the pregnancy. The bleeding continued for about nine days, at the end of which time she gave birth to a six-months foetus, and was attended by a private physician. She did not know exactly what the doctor who cared for her had done, but she strongly denied having taken, or having been given any douches of carbolic acid or other chemicals. No history of the use of any procedure could be obtained which could have caused the serious and extensive destruction of tissue that existed when she entered the hospital, just ten days after her first symptoms of trouble began.

Physical examination showed a patient fairly well nourished, in a condition which in many ways resembled that of the third week of typhoid fever; the face was anxious, the lips and teeth were covered with sordes and the tongue was dry and coated. The temperature, however, was slightly subnormal, the pulse 70, the spleen not enlarged, and the Widal test was negative. Careful examination of the thorax and abdomen did not give evidence of anything abnormal.

Inspection of the genitals revealed a condition of moist gangrene of the vulva, vagina and cervix, which is fairly well shown in the accompanying illustration (Plate XXIII). The entire birth canal was bathed in an excessively foul smelling, acrid discharge, there was a constant dribbling of urine from a distended bladder, through a small urethro-vaginal fistula about a cm. posterior to the meatus, and a putrid muco-purulent discharge flowed from the uterus.

Over the lower portion of the back just over the sacrum there was a bedsore about six centimeters in width. Examination of the urine was as follows: sp. gr. 1010, faint trace of albumin, urea 1.2 per cent., no sugar, bile, acetone or diacetic acid, but a marked excess of indican. No carbolic acid was found. Microscopical examination of the sediment showed a few hyaline casts, some epithelium and a large amount of pus, no blood. Examination of the blood showed: red corpuscles, 3,960,000; hemoglobin, 50 per cent.; total leucocytes, 39,400; small lymphocytes, 0.5 per cent.; large lymphocytes, 10.5 per cent.; polymorphonuclear neutrophiles, 88.0 per cent.

Examination of the extremities revealed nothing abnormal at this time.

The patient was immediately taken to the operating-room and after a ten gallon douche of hot normal saline solution had been given, both in the uterus and vagina, all of the gangrenous tissue was cut away, care being taken not to invade the underlying normal tissue. This was followed by a douche of weak iodine solution, and the whole vagina was then packed with balsam of Peru gauze.

The patient was sent to the solarium on the roof of the hospital and kept out in the open air both day and night. She was put on an extra diet, and as her digestion remained unimpaired it was possible to give her a large amount of nourishment.

The local genital condition healed rapidly under ordinary treatment so that within a month it was practically well. Unfortunately, however, the cystitis grew rapidly worse, the bedsore above mentioned broke down and became a sloughing wound of considerable size. She then developed bedsores of the elbows and shoulders, all of which gradually got well under treatment, with a water-bed, rings, etc.

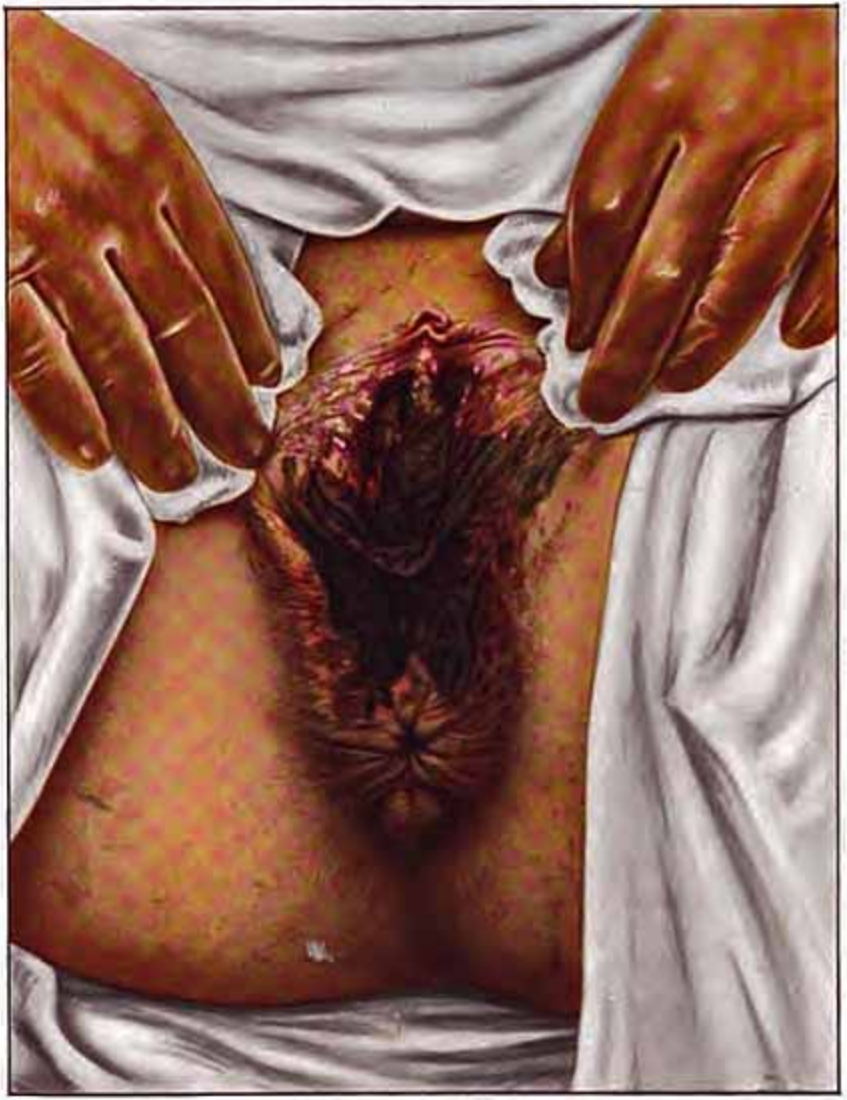
The cystitis proved obstinate and, although much improved, persisted up to the day of discharge. It was not thought wise to operate on the urethro-vaginal fistula until a later date, especially as it gave her no inconvenience. When she left the hospital she was able to control the bladder for two or three hours at a time.

One of the instructive features of the case, to the writer at any rate, lies in the result obtained from the fresh air treatment. A week after admission the patient had wasted from, as was previously stated, a fairly plump woman, to almost a skeleton. She was pale and emaciated to an extreme degree, and very little hope could be entertained for her recovery. After four months of treatment in the open air she went home a practically well woman, her skin was brown and tanned, she had recovered her former weight, she was strong, and her only trouble was the cystitis, which was, however, much improved.

Other than urinary antiseptics, in combination with bladder irrigation, and occasionally some of the bitter tonics, together with some iron and arsenic, her sole treatment consisted in remaining all of the time in the open air, both sleeping and waking, and in the taking of all the food which she could digest.

It is desired to make an earnest plea for the extension of the fresh air method, particularly in cases of sepsis, both general and local, as the results are so gratifying and the accomplishment of the end so practicable for all concerned.

The writer has seen several cases of gangrene of the vulva in which no history of injury, either mechanical or chemical, could be obtained either from the patients or their friends, and yet in which the destruction of the tissues was very extensive. Decubitus has always been an accompanying feature, leading to the belief that an obstruction of the arterioles in the



VULVO-VAGINAL GANGRENE

affected parts was caused by a thrombosis of these vessels or that the process was due to some obscure trophic disturbance in the central nervous system.

The condition referred to in this report seems to be comparatively rare, as only a limited number of cases similar to ours could be gathered from the literature on the subject. A case which most closely resembles ours in its general clinical features is the following, of which a full report is appended.

Lajos Goth; A Case of Phlegmonous Gangrene of the Vulva in a Pregnant Woman. Ein Fall von Gangraena phlegmonosa vulvae bei einer Schwangeren. (*Centralblatt fur Gynaekologie* No. 18, 1906.)

The patient was a young multipara, 18 years of age, who two weeks before admission to the clinic fell when lifting up a heavy hamper, in such a way that the hard heel of her bare foot struck against the external genitals. Immediately afterwards there was only a sensation of numbness in the parts, neither hemorrhage nor injury being noted at the time. Three days later, a swelling made its appearance in the genital region, accompanied by increasing pain, especially on motion. The temperature and pulse of the fairly well developed and nourished woman were normal. The organs of the thoracic and abdominal cavity were healthy.

Both labia majora, especially the right, were much reddened, with oedematous swelling of the right labium, which was about three times the normal circumference; the redness and infiltration gradually subsiding in the adjacent tissue, without a sharp boundary line. The skin of the right labium was detached and hung loose at the level of the anus, showing a greenish-blue discoloration, but no injury. Anteriorly, the disease reached as far as the mons veneris. The inner surface of the left labium, above the fossa navicularis, presented a reddish-brown superficial ulceration, about 2 cm. in diameter. The inguinal glands on both sides varied in size from a hazelnut to a pigeon's egg, moderately sensitive, but hard.

In view of the above described changes, there seems to be no doubt but that the condition constituted a gangrenous process of the external genitals. It was more difficult, however, to determine the precise character of this gangrene. In view of the microscopical findings, the diagnosis of gangrene phlegmonosa was rendered. Concerning the mode of origin, it is not possible to express a positive opinion. The causation of the gangrene in the manner stated by the patient cannot be entirely excluded, the hard and callous heels might very well have produced a severe traumatism; but all injuries were absent. Still, it might be assumed that the indirect violence gave rise at first to the formation of a haematoma, which secondarily underwent gangrenous destruction. This view is contradicted, however, by the clinical as well as histological findings.

There seemed to be no necessity for immediate interference, considering the good general condition of the patient and the absence of fever. Expectant measures (antiseptic compresses) were therefore adopted in the

first place. On the morning of the next day, eighteen hours after admission, the necrosis had reached almost one-half of the left labium majus; anteriorly it passed beyond the boundary of the mons veneris, and after involvement of the right nympha terminated at the margin of the urethral orifice.

Chloroform was administered, and a number of small pieces were excised towards the boundary of the apparently healthy surroundings, for histologic examination. A deep gangrenous sinus, penetrating into the loose cellular tissue of the mons veneris, and covered by intact skin, was split longitudinally with the knife, without a trace of pus making its appearance. In this way, a dirty gangrenous surface as large as the palm of the hand was exposed, and this was cauterized with a powerful electrocautery, until a dry and almost hard scab had been obtained. This was not easily accomplished, because at first the fat gushed out in actual rivulets from the abundant adipose layer of the genital region, melted by the radiating heat of the hot porcelain cone. A small blood vessel in the region of the navicular fossa was treated by acupuncture; in the case of another spurting artery in the region of the urethra, the suture thread cut through the friable tissue, and the stitch orifices themselves began to spurt. The rather considerable hemorrhage was controlled by "acupuncture en masse" of the entire tissue.

A permanent catheter was introduced into the bladder, and the cauterized surface was protected with a thin layer of dry iodoform gauze, covered by a light ice-bag. The catheter was changed every other day, followed by irrigation of the bladder, which showed no reaction. The temperature remained permanently normal. The change of dressings at the time of catheterization afforded an opportunity for noting that the gangrene made no further progress in any direction. A distinct line of demarcation appeared by the sixth day, and on the eighth the larger portion of the scab became detached; the oedema had considerably diminished, and healthy granulations were present. By the seventeenth day, the last remnants of the scab had become detached. The distance of the wound-margins was so considerable that a plastic operation was contemplated, but the granulating surface in the course of another week became transformed into a narrow strip, the margins of which everywhere showed the signs of beginning regeneration of the epidermis. All further interventions were abandoned, as the formation of harmful scar tissue or adhesions seemed to be excluded. A complete cure resulted in 43 days, without a serious obstetrical mutilation. However, the right labium minus had been destroyed entirely, and the right labium majus for the better part, the posterior third of the left labium majus being likewise lost, so that the slit gaped in a similar way as after an incomplete and imperfectly healed rupture of the perineum.

At the time of her admission, the patient stated having had her last menstrual period five weeks ago, and at the time of her discharge, pregnancy corresponding to the eighteenth or twentieth week was demonstrated. It appears noteworthy that no interruption of the pregnancy occurred, either

as the result of the disease, nor in connection with the rather severe operation in the vicinity of the perineum.

The histological examination of the specimens (hardened in formalin and imbedded in celloidin) (haematoalin-eosin stain) showed in several sections a rather well-preserved epidermis, but as a rule the epidermis was necrotic, and in these spots the nuclei had not taken any stain at all. The subcutaneous connective tissue was hyperaemic, with oedematous infiltration; in many places, fibrin masses were visible, as well as many large blood vessels filled with fibrin. The tissue itself was necrotic, and showed no nuclear stain, but it was interspersed in several places by wide strips of pus cells, with distinctly recognizable polynuclear nuclei.

The transition-points from necrotic to healthy tissue were of greatest interest from the bacteriological point of view; only a single place was found among the numerous specimens, in which the sudden cessation of the still preserved epidermis was microscopically demonstrable. Sections stained with carbol-fuchsin or according to Weigert, showed at these points neither bacteria nor spirilla. The progress of the disease was indicated throughout by large groups of cocci, which occasionally formed short chains of six to eight links.

The *histological and bacteriological findings* are somewhat suggestive of the picture of erysipelas, but this is contradicted (aside from the clinical picture) by the fact that the boundaries of the disease were not sharply outlined, and that the process extended deeply in a direction in which the skin was still preserved. Moreover, the exudation and purulent infiltration seemed to be more severe than in erysipelas. The mode of progression of the disease most closely resembled the picture of phlegmon, and this is not contradicted by the presence of necrosis at spots where as yet no purulent infiltration could be demonstrated. Tissue necrosis is often present before the outset of purulent infiltration, and is referable to the specific effect of the inflammatory agent.

Simple phlegmon is contra-indicated in this case, however, in the first place by the fact that no traces of pus were found, either during or after the operation; and especially by the clinical observation to the effect that the disease did not progress after the manner of an inflammation that later on becomes gangrenous; but the gangrene itself progressed in a manner characteristic of phlegmon. Hence, in view of the microscopical findings, the diagnosis rendered was: gangraena phlegmonosa.