THE USE OF FORMALIN IN THE TREATMENT OF BLEPHARITIS.

Presented to the Section on Ophthalmology at the Forty-ninth Annual Meeting of the American Medical Association held at Denver, Colo., June 7-10, 1898.

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During the past year I have employed formalin in all cases of blepharitis. To apply it I use a toothpick with a small cotton mop wrapped on the tip so that it does not take up enough solution to run into the conjunctiva. The solution is made of the strength of .2 per cent. to 1 per cent., beginning with the weaker. It must be frequently renewed or prepared extemporaneously at the time of using, in order to insure uniformity of strength.

The lid is drawn away from the eye-ball. The mop dipped in the solution is rubbed gently along the margin among the lashes until all the scales and crusts are removed and until the surface of any little pustule is rubbed off. The site of disease is thus left clean and smooth. The mop is renewed a time or two during each operation. A little bland oil may be applied afterward, or the formalin may be used in the oil. The applications are made daily if possible by the physician's hands. Otherwise they may be made by the patient at his home.

The correction of all retractive errors I hold to be of prime importance; likewise the improvement of local or general conditions which may predispose the margins of the lids to disease. With these precautions taken, it is gratifying to note how rapidly patients will improve under formalin treatment. It will invariably improve all cases and cure many of them. Some of those cured will relapse, but a renewal of treatment again relieves them. Several of my cases had been treated by myself by other means with little or no benefit, but improved rapidly under formalin.

One, a school girl, had been under observation for six years. She had been treated for two months by an eminent man in St. Louis, and for various periods by myself with the full catalogue of salves and solutions, without result. In one month under formalin the edges of the lids were smooth and white, and have remained so for four months, though the girl continued in school.

Another case was that of a young lady whose blepharitis had produced a trichiasis, requiring the Hotz operation for its relief, the blepharitis having been previously cured with formalin. From January to the present writing her lids have remained well. Other agents than formalin had proven valueless.

A clergyman, aged 27, had worn glasses and been treated for many years for blepharitis without a month's relief. A month's use of formalin left his lid margins healthy. They remained so from July, 1897, till April, 1898, when with over-use of the eyes he suffered a relapse, which again yielded promptly to formalin.

Some cases do not seem to get entirely well for longer than a few days, but the use of the formalin is so effective in keeping the disease in check that such patients are glad to keep up its use by their own hand. I do not wish to say that I have not found benefit in many cases from the use of other drugs, or that formalin is a permanent cure, but the proportion of cases benefited and the measure of relief afforded

by this remedy is so vastly superior in my hands to other remedies, that I cannot do otherwise than call attention to it.

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AN UNUSUAL CASE OF RUPTURED TUBAL PREGNANCY; OPERATION AND RECOVERY.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

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This case of tubal pregnancy is worthy of record on several accounts: First, because of its early rupture, being but about four weeks advanced in pregnancy; second, because of recovery from such a dangerous state of collapse as occurred during the operation; and third, on account of the severe complication—left lobar pneumonia—which set in on the second day after the operation, and would seem to have barred what little chance of recovery was still left to the patient.

Mrs. M. L. J., American, age 30, married seven years, mother of two children, never had a miscarriage, abortion or any serious sickness before this, but was delicate in childhood. Began to menstruate at 15 years of age and first suffered severe pain with her periods at 17, which continued until after the birth of her first child, when the pain lessened in duration and severity, lasting only during the first day, where previously it had continued two or three days. Has always been fairly regular, but on several occasions went over a week, and once last winter ten days. Her last period, before this accident, began on January 20 and continued for a week as usual. During February she felt well, no nausea or other symptoms of pregnancy being noticed, except swelling and tenderness of the breasts, which always occurred as her menstrual period approached, and consequently did not impress her as auguring anything unusual. On March 1, 1898, at 10:30 A.M., while sweeping a room, she stooped, and while in that position was seized with a severe pain. I saw her at 2 P.M. and observed her ghastly pallor and look of distress; not a particle of color in cheeks or lips, pulse 110 and thready, respirations rapid and shallow, temperature subnormal, abdomen very tender and the patient evidently suffering exquisitely. I gave hypodermically a combination of atropia and morphia containing a quarter of a grain of the latter, and repeated the dose in half an hour, no relief having been experienced. This making the pain tolerable, I left 1/10 grain morphia to be given every hour until my return. I returned at 5:30 P.M. and gave another 1/4 grain dose of morphia hypodermically, the pain continuing atrociously severe, being steady rather than of a spasmodic character. Bimanual examination revealed nothing of a positive nature. Being satisfied that a severe hemorrhage had taken place, thinking that it came from a ruptured tube, counsel agreeing with me, I proposed operation for an early hour next morning, but the patient declined, until her mother could arrive that night. Accordingly, at 8 o'clock the following morning, a celiotomy was done in the patient's bedroom, with the best antiseptic precautions available, but with the dangers and difficulties usually attending operations in private apartments, not the least of which, from the patient's standpoint, was a cold room.

The recorded temperature of patient at 6 A.M. was 99.8 degrees F., with pulse at 118, small and thready, although fortified beforehand with strychnia and digitalis.

Patient being etherized, I made a three-inch incision in linea alba just above the pubes. On reaching the peritoneum, it pouted into wound and showed dark underneath. On opening it, dark blood squirted upward several feet. A quart or more of liquid and clotted blood was removed and a rupture in the right tube, close to uterus, was discovered. After tying off tube and ovary on right side, the left was brought up, examined, found healthy and dropped, and the toilet of peritoneum about completed, when considerable oozing of blood, from stump and broad ligament, was noticed. Great difficulty was experienced in controlling it, final resort being had to the cobbler stitch with catgut. Abdomen was closed without drainage, the peritoneal cavity having been filled with hot

normal salt solution. When the operation was completed, the patient was in extremis, with a pulse of about 180 and almost imperceptible at wrist.

By the aid of hypodermics of strychnia, atropia, digitalin and nitroglycerin given to the limit of safety and enemas of hot salt solution, coffee, whisky and aromatic spirits of ammonia, the patient reacted and at 6 p.m. exhibited a pulse of 138, of fair tone and volume and a temperature of $100\frac{1}{2}$ degrees F., respirations 30. March 4, 6 A.M. (next morning), pulse 120, temperature $100\frac{1}{2}$, respirations 30; March 4, noon, pulse 122, temperature $101\frac{1}{2}$, respirations 30; March 4, 3 p.m., pulse 140, temperature $102\frac{1}{2}$, respirations 32; March 4, 10:30 p.m., pulse 137, temperature $103\frac{1}{2}$, respirations 36. (At this time the decidua membrane shown in the photograph appended was expelled from the vagina, no shreds or bloody discharge being noticed before.)

March 5, 6 A.M., pulse 136, temperature $102\frac{1}{2}$, respirations 38 with some cough. Examination revealed crepitant râles at base and posterior part of left lung. From this date to the 14th as a complication of the already serious condition, there was a typical left lobar pneumonia, the pulse gradually coming down to 118, at which it stood on the latter date. After March 14 there was practical defervescence, with the patient rapidly improving in strength and looks. About this time

1. Fimbriated extremity of tube. 2. Ovary. 3. Point of rupture of tubal pregnancy. 4. Decidua membrane, surface of attachment to uterine wall.

every alternate suture was removed from the abdominal wound and the balance a week later. No suppuration or trouble of any kind occurred about wound or sutures, silkworm having been used externally and the patient was sitting up in three weeks from date of operation.

April 22 her period reappeared with the usual pain and lasted a week. May 7 inspection of the abdomen revealed a firm scar, two and three-fourth inches in middle line just above pubes and natural contour of the abdomen. Bimanual examination shows uterus of normal size, slightly anteflexed and freely movable *without pain*. May 23 began a repetition of pain and period with usual length of flow. The specimens being hardened in formalin solution, were submitted to Dr. Stanley Black, pathologist, to whom I am indebted for a careful examination, and who reported the following: I have examined the specimens, find chorionic villi in the Fallopian tube and decidua cells in the membrane.

I append a photograph showing the specimen before mutilation. No 1 points to the fimbriated extremity of the tube. No. 2 is the ovary, apparently normal in every way. No. 3 indicates the point of rupture; and just above No. 4 is seen the decidua membrane, presenting its shaggy surface of attachment to the uterine walls.

If I may be allowed a few observations in regard to this case, I will recall to your attention the fact that from the last day of menstruation, January 27, to March 1, the day of rupture, is but twenty-nine days. From quite a search of the literature of these early cases, I have been unable to find a case of so early rupture as this, though I doubt not for an instant they may have occurred even earlier. One of the earliest cases that I have run across is one of five weeks reported by Tait, in which death occurred in seven and one-half hours from hemorrhage, the rupture, as stated by him, from which the fatal hemorrhage took place not being larger than a pea. As diagnosis and treatment are the most important considerations in all pathologic conditions, they are practically the only ones in this class of cases. If one waits for a classic array of symptoms and refuses to operate until such an array is present it is my opinion that the patient is to be commiserated on account of her too conservative (?) medical attendant. Dr. Henrotin says: "The diagnosis of primary complete rupture prior to the seventh week is the diagnosis of intra-abdominal hemorrhage."

Given a woman just previously in a state of health within the child-bearing period, with the physical signs of internal hemorrhage and the characteristic pains, if she be conscious, even though no coincident signs of pregnancy exist, I maintain that the medical attendant is not only justified in, but criminally negligent if he refrains from, operating (*i. e.*, making an exploratory laparotomy), thus increasing the woman's chances of recovery and demonstrating true conservatism, the conservation of life, always premising a fair degree of skill in the operator and a strict adherence to the details of asepsis and antisepsis. Dr. E. S. Boland of Boston in an excellent article on this subject "from the standpoint of the general practitioner," courageously remarks, "although I have never performed a laparotomy, I should not hesitate to attempt it if I met one of these cases so remote as to require many hours to get greater skill," and concludes, "that prompt laparotomy after rupture is the only safe and conservative course." I think in a case such as the one reported, where the time on the operating table should be as short as possible, that it would be better to quickly remove the hematoma and bring together healthy surfaces with continuous catgut sutures, not removing tube and ovary if not otherwise diseased, and thus save an amount of added shock that might prove fatal. It goes without saying, that the interests of such cases as this are better conserved in a hospital or sanitarium, for I am sure that the pneumonia here reported resulted from the too cool rooms, and the danger of transportation thither will no doubt be doubly compensated to the patient by the better operating facilities and comforts there to be had.

As to the frequency of these cases compared with those of natural pregnancy there can only be surmise. One author reports from his own experience 1 in 170 cases of normal pregnancies, while another reports 1 in 1500 cases. Again, as to which tube is most frequently impregnated, that is, I dare say, purely a matter of accident, but I have noted in my search for these cases that it has most frequently occurred on the right side, and merely record the fact without attaching significance to it. When we consider the large mortality of these cases if left to nature or medication (see Baldy's report of Formad's autopsies) and the brilliant results obtained by the early opera-

tion, we are constrained to recommend the rule: When in honest doubt, operate. In a letter dated April 22, 1898, Dr. M. D. Mann of Buffalo, N. Y., writes me: "I have operated forty or fifty times for that condition, four times within the last three weeks, and so far all have recovered except one, which was operated on through the vagina." This brings up the question as to the choice of route by which to reach the diseased condition. In *recent* cases my own choice is for the abdominal route, as giving one absolute control over hemorrhage and enabling him to see all that is to be seen, and if vaginal drainage is desirable it can be easily added.

THE INFLUENCE OF SEX ON DISEASE.

Presented to the Section of Obstetrics and Diseases of Woman at the Forty-ninth Annual Meeting of the American Medical Association held at Denver, Colo., June 7-10, 1898.

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Curiously enough, while the tendency in modern civilization is to eliminate the distinctions in the political and economic status of men and women, that of medicine has been to exaggerate the natural difference of the manifestation of disease between the sexes.

The object of this essay is not so much to show how many as how few are the differences. The influence of sex on the course of general disease is wholly a matter of soil and environment; that is, the disease is the same, with the same tendencies and possible terminations, but modified by the constitution of the person and not by sex. Granted that individual constitution does affect the course of disease, we must determine whether its characteristics differ according to sex, or whether they differ among individuals regardless of sex. To predict our conclusions it will be found that the course of general diseases is not affected materially by difference of sex, except in a few instances that are easily defined and pointed out. Apart from variety of occupation and greater or less exposure there are few factors which alter the percentage of men and women who acquire infectious diseases. Typhoid, typhus and the exanthemata affect the sexes equally.

Mortality is indeed greater among males when pneumonia is considered, but that is undoubtedly due to the greater abuse of stimulants by men. In diseases of the nervous system the effect of sex upon the form of disease is more marked. Men are more liable to the structural diseases, especially sclerosis, while women are more liable to functional disease. As notable as any is the predominance of Graves' disease among women. Especially is this marked when we include in Graves' disease many cases of tachycardia, in which the eye and thyroid symptoms are not markedly developed. The inference is therefore justified that, barring pelvic disease due to organs belonging exclusively to women, and those nervous diseases traceable to the acknowledged greater instability of her nervous system, the manifestation of disease in woman does not differ markedly from that seen in man under similar circumstances. Nor can it be said that the influence of the pelvic organs in one sex has a much greater tendency to reflex manifestation in distant organs than those of the other.

The influence of sex on disease as depending chiefly upon habits of life is well illustrated in the case of cardiac lesions. The quieter life eliminates much of the danger of strain. In women, who, as a class, do

not abuse alcohol, there is less tendency to arterial disease, and to all those symptoms that follow arterial sclerosis. In old age the factor of arterial degeneration is apt to be less marked. In young women, the tendency of the sex to chlorosis should influence diagnosis, prognosis and treatment of patients presenting cardiac and pulmonary or nephritis symptoms. Thus in a young man, dropsy of the feet would be more readily thought to be of kidney origin than in a young woman.

The tendency to specialism is to treat the male and female as separate species. This is so grave an error that it has seemed worth while to point out that men and women have most points of physical constitution in common; with only those modifications necessary to distinguish sexual function. The diseases of infancy are exactly the same in both cases; the cardiac, pulmonary, renal, gastric and most general diseases are the same. Nervous diseases are indeed modified by a higher degree of direct and reflex excitability of the nervous system, but rarely by any disease of the uterus or ovaries. Indeed, the belief is well founded that neurasthenia and hysteria are often aggravated by local therapeutics directed to their cure.

It can be stated on the authority of nearly all those competent to study epilepsy from the neurologist's point of view, that this disease is hardly ever cured by operation. The uterine and ovarian element in the general diseases of women is largely, at the present time, the unnatural growth of distorted public opinion, that has been led to attribute many conditions to local diseases of women, that are, in fact, common to both sexes, or at least only modified by the natural difference in general physique and nervous organization. The fact that women are more liable to functional nervous disease is not due to disease of the pelvic organs, but easily and wholly traceable to the physiologic difference of the general nervous system. So the appreciation of the difference in the course of disease in individuals, of whatever sex, need only be modified, as it always is by the variation of constitution, whether between one man or another, or one woman and another, or between a man and a woman. A woman leading a healthful outdoor life, with her muscles in use and her muscular tissue thoroughly active in its oxygen-absorbing and heat-producing functions, is more of a man in one sense of the word than the confined, undeveloped and anemic city clerk. This difference in physical stamina between the sexes is not due to the influence of any set of organs, nor is it to be modified by any degree of health of these organs that can be attained independently of the rest of the body. What small difference there is in disease is due to the minor difference in nervous irritability, but far more to the influence of habits of daily life.

The influence of sex upon the course of internal disease is not, therefore, to any great degree influenced by sex, as such, but by the influence on disease of those external conditions which are common to both sexes, but which by custom may have come to predominate in one sex or the other. Thus a woman is more protected from violent accidents, exposure to the weather, and suffers less frequently from the results of alcohol, tobacco and some of the infections. On the other hand, she is more liable to the evils of a sedentary and confined occupation, and the abuse of tea and sweets is much more frequent. These circumstances are not necessarily the accom-