in the child. Following the general rule, most of the children dying from tuberculosis showed tuberculous meningitis at autopsy, forty-two of fifty-three cases. The low incidence of congenital syphilis (1.6 per cent) is encouraging, and speaks well for the increasing interest in the recognition and treatment of the disease in the mothers. Formerly the incidence was much higher. The relatively large number of deaths attributed to the thymus affords opportunity for discussion. Failure to discover a satisfactory explanation for death should not necessitate classification as "thymus death," even though the thymus gland and the lymph glands are enlarged. It is hoped that a more satisfactory understanding of these sudden deaths will be forthcoming in the future. In the meanwhile, it is necessary to continue using the present classification, unsatisfactory as it is. Finally, it should be noted that three of four cases of leukemia were of the aleukemic or leukopenic type, which seems to be the rule in childhood.

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A. G. Foord, M. D. (Pasadena Hospital, Pasadena). In reviewing the summary presented today, the frankness of Doctor Hyland is brought out by the fact that he admits that there are nine out of the five hundred cases in which he was unable to make a diagnosis. This is the usual experience of men handling material from a hospital such as his, but some men do not care to admit that they do not know the reason for death in some patients.

I agree with Doctor Happ that the diagnosis of status lymphaticus is one that should be used in the rarest of instances, particularly when cognizance is taken of the fact that cases of sudden death, either in adults or children, are very prone to show prominent lymphoid tissue, whereas those sick only a few days or longer show much less prominence of the lymphatic apparatus. This point was brought out strongly by the Germans in their autopsies on young soldiers in the recent war, and has commonly been mentioned in cases of suicide.

The finding that half of the cases of meningitis were due to tuberculosis should make us all think of a tuberculous origin of cases of meningitis in children, particularly those in hospitals where there is a large Mexican or negro population. At the same time, seven out of eighty-two cases of meningitis due to influenza bacillus is a percentage somewhat higher than usually found.

Of particular interest are the types of organisms found in cases of mastoiditis. In twenty-seven patients, no pneumococcus was found. In our Pasadena experience in the last few years, pneumococcus has been found frequently, particularly pneumococcus type three, and the hemolytic streptococcus beta, much more commonly than the green-producing alpha type.

The low incidence of nephritis—only twelve cases among five hundred patients—is rather striking, but the figures gibe with experience in other hospitals, where teaching material on nephritis is often obtained with great difficulty.

Doctor Hyland should be congratulated on the work of his laboratory in uncovering bacillary dysentery, fourteen of such cases being included in his autopsy material. The policy of his laboratory of routinely culturing stools of babes and children with a diarrhea is to be recommended.

His figures as to the cases of death are particularly valuable, since he has reached the almost unheard of record of 96 per cent of autopsies on those dying in the Children's Hospital in Los Angeles. Certainly, his record is one that all pathologists should try to equal.

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Doctor Hyland (Closing).—I wish to thank Doctors Happ and Foord for discussion of this paper. It was anticipated that the cases listed as "status lymphaticus" would be referred to in this discussion. I am aware that patients dying suddenly show a more prominent lymphoid apparatus than patients sick for some days or weeks; however, one not infrequently encounters a case in which this is not true.

I made an attempt in this series to keep as low as possible the incidence of this condition, and found it more of a problem than if the series was composed of a like number of adults. As stated in the analysis, no cases were labeled "Status Lymphaticus" that did not present the classical accepted picture of this condition; however, I am in complete accord with both of the discussers as to the lack of understanding this term conveys. I am also aware of the absence of the pneumococcus in our cases of mastoiditis in this series.

In some of our recovered patients, this organism was present, but it was present very infrequently, which is not in agreement with Doctor Foord's experience in Pasadena. We have found the culturing of material from the intestinal tract and from the scraped mucosa at autopsy a valuable procedure, and it is done on all cases showing the least suggestion of an inflammatory lesion. Many cases of bacillary dysentery have been discovered since we have followed this procedure.

PORRO CESAREAN SECTION*

By Edmond M. Lazard, M. D.
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By the term "Porro cesarean section," hysterectomy following delivery of the baby by abdominal section is generally understood.

In 1876, the procedure was advocated by Porro in order to reduce the prohibitive mortality from puerperal infection following section which prevailed at the time. Then section was practiced as a last resort; the principles of asepsis were unknown, and suture of the uterus was not done. The wonder is, not that there was a high mortality, but that there were any recoveries following such a procedure.

The classical technique of the Porro operation was to eventrate the unopened uterus (the incision in the uterus being made extra-abdominally) and, after removal of the uterine contents, a rubber tourniquet was placed around the lower uterine segment to control hemorrhage; the cervix was transfixed with knitting needles which fixed the stump in the lower angle of the abdominal wound, and the uterus was amputated. Thus the risk of infection of the peritoneal cavity from spill of the infected uterine contents was largely obviated, and the danger from hemorrhage was overcome.

There was an immediate improvement in the results.

With the development of asepsis and improvement in surgical technique, the classical Porro operation has been almost entirely replaced with a typical supravaginal amputation of the uterus, with suture and peritonization of the stump. This is what is usually meant by Porro section today.

INDICATIONS

While the neglected or maltreated case, with possible or actual infection present, still is the principal reason for the Porro procedure, yet the modern indications have been broadened to include fibroids; abruptio placentae with Convellaire uterus and elective for purposes of sterilization.

As a method of sterilization, the Porro procedure has the following advantages over the less radical methods of tubal sterilization. First, may

* Chairman's address, Obstetrics and Gynecology Section of the California Medical Association, at the sixty-second annual session, Del Monte, April 24-27, 1933.

be mentioned that there is far less danger of infection than in the tubal sterilizations. In the latter method, after taking every precaution to protect the general peritoneal cavity during the sectioning, two new wounds are made in the cornuae of the uterus, necessitating invasion of the general peritoneal cavity after having invaded the potentially infected uterine cavity; thus largely losing the advantage of the care used to protect the peritoneal cavity during the sectioning. I have knowledge of three fatal cases resulting from tubal sterilizations, following section; and one, which came to autopsy, was performed by a most competent and skillful surgeon. At autopsy, a localized abscess at the site of the tubal resection, with intestinal adhesions to the abscess and obstruction of the bowels with generalized peritonitis, were found. A second patient, seen in consultation one week after an elective section and sterilization, was in extremis from a septic peritonitis and died within two hours of the time she was seen. With the Porro procedure, the danger of infection is reduced to a minimum, and there is this second advantage, its absolute assurance of effecting sterilization. There have been many pregnancies after attempt at sterilization by the tubal operations. In the third place, the Porro procedure can be done in less time and with less shock to the patient than is the case with the tubal procedure. Fourth, it relieves the patient of a large involuting organ, which is of no further functional use and only potent for later trouble, such as fibroid or malignancy developing.

The disadvantage of the premature onset of the menopause can be largely obviated by properly preparing the patient for its advent.

I have had the opportunity of reviewing the records of the Los Angeles General Hospital, the Hollywood, California, and the Cedars of Lebanon hospitals for the past five years, and have found therein instances of fifty-one Porro cesarean operations, among which were seventeen personal cases, several of the latter antedating the five-year period.

The indications for the procedure were: potential or actual infection, 9; fibroids, 20; abruptio placentae, 4; failure of uterus to contract satisfactorily after section, 2; elective for purposes of sterilization, 15; and one case of gangrene of the lower uterine segment complicating obstructed labor.

Of the cases in which this procedure was elected for purposes of sterilization, one patient was a grav. 1; both the patient and her husband were crippled as a result of infantile paralysis, and they both requested that sterilization be done. She had a generally contracted pelvis, and was given a test of labor before section was proceeded with.

Eleven of the patients who were sterilized by this method had had previous sections, and three were multiparae who had dystocia due to previous amputations of the cervix. There were no deaths in this group.

Of the twenty cases in the fibroid group all had multiple fibroids, and in two cases there were degenerating fibroids. All of these patients made good recoveries, the highest postoperative temperature being 102.4 on one occasion in one of the degenerating fibroid cases.

The abruptio placentae group of four cases furnishes one of the deaths of the series. This was a patient whose operation was delayed several hours after the condition was recognized, and who died of shock within an hour after the termination of the operation. The three cases of abruptio which recovered were all classed as bad operative risks, preoperatively; and all had comparatively smooth recoveries. The babies of these four mothers were dead when the patients came under observation.

The two cases in which Porro was done because of noncontractility of the uterus following section, made good recoveries.

The classical indication for the Porro procedure, viz., actual or highly probable infection, was given in nine cases; and this group furnishes two of the deaths. One of these fatalities was a patient who had had a previous classical section. She was first seen when she was in premature labor at seven and one-half months, with signs of a threatened uterine rupture, and she had a temperature of 101.2. She was immediately subjected to a Porro section, but death occurred forty-nine hours after operation. At autopsy, a gas bacillus infection with necrosis of the uterine stump was found. In this case, a marsupialization of the cervical stump similar to the manner described by Porro would probably have been more favorable than the modern procedure of peritonizing the stump and dropping it back in the pelvis.

The second patient of this infected group who died was a grav. 1, who was seen in consultation in a small maternity cottage after she had been in labor seventy-two hours; she had been examined vaginally twice under what was thought to be aseptic precautions. She was regarded as a potentially infected case, and for this reason a Porro was done. She died on the sixth postoperative day with evidences of septic peritonitis; an autopsy could not be obtained.

The patient who was sectioned for threatened uterine rupture was classed as an almost hopeless risk. She was found at operation to have a gangrene of the lower uterine segment with a necrotic longitudinal rupture of the uterus, and there was a massive retroperitoneal hemorrhage. A rapid supravaginal amputation of the uterus, with marsupialization of the stump in the lower angle of the wound, was done. The patient died within an hour after the operation was finished. This case has already been reported, and is to be published later.

MORBIDITY

The convalescence was unusually smooth in all of the cases which were done for sterilization with the exception of two cases—one patient who developed pyelitis, with a temperature of 104 on the eighth day, but recovered and was discharged on the fifteenth day, and another patient who had had a previous amputation of the cervix and who, after the Porro, developed an abscess of the abdominal wall and was not discharged from the

hospital until the thirty-seventh postoperative day. This was the longest hospitalization of the entire number, all the others being discharged within from fourteen to twenty-one days.

The potentially or actually infected group naturally had the most stormy convalescence, their temperature ranging from 101 to 104; but with the exception of the two who died, all made good recoveries and were discharged within three weeks.

TECHNIQUE

As already noted, the present-day technique of the so-called Porro operation is very different from that advocated originally by Porro.

Where the indication is fibroids or elective for sterilization, either the low cervical section or the classical section followed by supravaginal amputation of the uterus with peritonization of the cervical stump, should be the procedure.

If the low cervical operation is done, the transverse incision of the cervix is of advantage, as half the amputation is done when the baby is delivered.

If the indication is actual infection, the uterus should be eventrated before opening, and every precaution taken to protect the abdominal cavity from infection by spill from the uterus. It is a question as to whether the Portes exteriorization is not preferable to the Porro in cases of frank infection, as there is a better chance of protecting the peritoneal cavity; and in case of a primigravidous woman the conservation of the uterus, with the possibility of a future pregnancy, is a great advantage.

CONCLUSIONS

1. Porro cesarean section for fibroids, or elective for purposes of sterilization, should have no more mortality than is incident to any laparotomy; and the convalescence is as a rule uneventful.

2. Where the operation is done for fibroids, abruptio placentae or elective for sterilization, either a classical operation or a low cervical section with a transverse incision of the cervix, followed by supravaginal amputation of the uterus with peritonization of the cervical stump, should be the procedure of choice.

3. If the reason for the operation is a frank infection, every precaution should be taken to protect the peritoneal cavity from infection, by eventrating the unopened uterus and doing the work extra-abdominally. It is a question whether the Portes temporary exteriorization operation would not give better results in the frankly infected case and have, at the same time, the advantage of preserving the uterus.

4. In a series of fifty-one Porro operations, here reported, there were four deaths, 7.8 per cent; two of the deaths being from the group of nine cases done because of infection, 22 per cent; one death in the four cases of abruptio, 25 per cent; and one death from gangrene of the lower uterine segment with massive retroperitoneal hemorrhage present before operation.

In twenty cases done for fibroids, fifteen for sterilization, and two because of failure of uterus to contract after section, there were no deaths.

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POSTMENOPAUSAL HEMORRHAGE *

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DISCUSSION *by R. Glenn Craig, M. D., San Francisco; John A. Sperry, M. D., San Francisco; H. N. Shaw, M. D., Los Angeles.*

HEMORRHAGE first appearing after the cessation of menstrual life is such an abnormal manifestation that one should expect that it would occasion immediate anxiety on the part of the woman and receive immediate investigation from her physician. Yet it is astonishing to see how many women ignore this symptom (attributing it to a return of their youth) and appalling to see how frequently even well-trained physicians treat it palliatively without adequate investigation. All too often ergot is prescribed to control bleeding without even an examination, or a patient is given local treatments to her cervix while her fundal carcinoma grows beyond the limits of operability. One patient in this series had been treated twice weekly for a period of fourteen months without noticeable benefit. Becoming dissatisfied, she went to a second physician, who applied medication to her cervix for another six months before she finally appeared for investigation at the University of California Woman's Clinic.

Yet the number of such cases which do appear is constantly increasing. They formed 2.2 per cent of the 3,310 admissions in the first ten years on the gynecologic service, and 3.2 per cent of 7,360 admissions in the next nine and one-half years. Not infrequently at the present time a patient enters within a day or two after noticing the first slight spotting, and although these early admissions increase very greatly the hopefulness of accomplishing something for these patients, they also increase very greatly the difficulties of diagnosis in certain cases.

In many cases, unfortunately, the diagnosis is only too obvious, for malignancy of the genital tract, and particularly of the cervix and the fundus uteri, remains the most important cause of postmenopausal hemorrhage, and the one which must always be eliminated before any type of conservative treatment is justifiable. In other cases even the most thorough investigation, including examination under anesthesia and biopsy or diagnostic curettage may leave the diagnosis obscure. Such cases must of course remain under the closest observation until further developments establish diagnosis or cure.

ANALYSIS OF THE CLINICAL MATERIAL USED IN THIS STUDY

It was in an effort to throw additional light on this subject that the 315 cases occurring in 10,670 admissions to the gynecologic service were studied. It was found that in 215 cases, or more than two-thirds of the total number, the bleeding was due to a malignant tumor of the genital tract. Of these the very great majority were uterine tumors. One hundred and fifty-three patients had carcinoma of the cervix; in fourteen of these the

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