omention above the duodenum and the fold is ballooned out with 10 c.cs. of anaesthetic which tracks around the common bile duct. The gallbladder and biliary tract are now “damped off” and the operation can be performed confidently and the general anaesthetic can, if it is wished, be discontinued.

3. The Spleen.—The spleen is held forward from the splenic bed by the left hand the lienorenal and gastro splenic ligaments are soaked sub-peritoneally, taking care that the anaesthetic is not inserted into one of the large vessels in the splenic hilum by aspirating first.

Local Anaesthesia for Inguinal Hernia or Femoral Hernia

Local Infiltration.—The “arrow-head” injection is made on the side of the operation, using 10 c.cs. in each direction and taking care to infiltrate the full thickness evenly particularly the external oblique muscle to relax Poupart’s ligament, thereby making for a good exposure and accurate work. A taut Poupart’s ligament gives poor access and stitches tend to cut out. The incision runs from the anterior superior iliac spine to 4 inch internal to the pubic spine, 3 c.cs. are injected subcuticularly and 3 c.cs. vertically down along this line. At the pubic spine 6 c.cs. are injected towards the scrotum and perineum to desensitise the termination of the long perineal nerves. The deep side of the neck of the hernial sac requires injection when it is exposed; absence of blue, indicates the need.

Femoral Hernia.—In addition to the above insertion, infiltration is needed about the neck of the sac, below Poupart’s ligament just external to the pubic spine and especially around the inferior side of the neck. If the Lotheisen approach is used then the neck is infiltrated all round, after incision of the transversalis fascia on the posterior wall of the inguinal canal above Poupart’s ligament.

Local Anaesthesia for Supra Pubic Cystostomy

The direct infiltration is of the middle line from the pubis to the umbilicus. The regional block is the “arrow-head” injection on both sides.

Then 20 c.cs. of anaesthetic are pooled suprapubically in the perivesical tissues.

Discussion.—A method of Anaesthesia combining local and general agents for abdominal procedures has been detailed. It has been used since May, 1937 and is steadily satisfactory. It minimises strain on operation for the patient and Surgical Team. It is a little slower than other methods. It reduces the post-operative morbidity and nursing. Last, post-operative chest, headaches, retention of urine or abdominal distension are rare and seldom troublesome.

Blood-pressure charts of readings taken during and after the operation show smaller ranges of fall than after procedures under general or spinal anaesthesia.

In my experience no general anaesthetic is consistently satisfactory for any abdominal work, neither upper abdominal nor even herniae. Few patients will not relax, but the local anaesthetic makes this certain.

Balanced anaesthesia is not new, it was first mentioned by Lundy.

It is now inclined to be “old-fashioned” with the advent of tubocurarine which is admittedly superb in competent hands, but it has its dangers. Expert anaesthetists are not everywhere and at all times available, nor is the drug in full supply. Therefore, for the outpatient and emergency surgeon and there are many such, this scheme of Balanced Anaesthesia is invaluable.

Conclusion.—A combination of local and general anaesthesia for abdominal operation is described which has proved successful since May, 1937.

PSEUDOCYESIS

By Mary Doreen Daley, M.D., M.R.C.O.G.

(Resident Assistant Obstetric and Gynaecological Surgeon, St. Helier County Hospital, Carshalton, Surrey.)

Pseudocyesis is a curious condition in which symptoms and signs of pregnancy are simulated sufficiently to convince a woman, her friends and relations, and in many cases her obstetrician, that she is pregnant. The term was first introduced by John Mason Good (a) in 1823. Till then false pregnancy was the name most often used, but as Pajot (b) said: “Il n’y a pas de fausses grossesses, il n’y a que faux diagnostics.” Other terms frequently found in the literature are spurious pregnancy and phantom tumour.

The condition has excited attention from very early times and Hippocrates is said to have observed twelve cases in his practice in 300 B.C. Several famous women in history have been afflicted in this way. Perhaps the most notable example was Mary Tudor who thought that God had not given her a child because she had not
been sufficiently harsh with the heretics! Many persecutions followed, after which the Queen felt sure she was pregnant as her abdomen enlarged and she suffered from vomiting. A few seventeenth-century cases are recorded, some of them by William Harvey (c) who, in his Essay on Conception, described similar phenomena in animals. In the eighteenth-century, Mauriceau (d) described the case of the wife of the French President who was wrongly thought to be pregnant by "many surgeons, physicians, and midwives." A curious case is that of Joanna Southcott a religious prophetess, aged 64, who in 1814 thought she was pregnant by the Holy Spirit, and is said to have disappointed one hundred thousand people when the second coming of the Messiah did not eventuate at the expected time. The poor woman died two months later and the post-mortem examination, attended by fifteen physicians, apparently revealed nothing but intestinal distension and a great increase in omental fat.

Recently, George Bivin, an American psychologist, has made an exhaustive inquiry into pseudocyesis. He, unfortunately, died before his task was finished; but a fellow worker, Pauline Klinger, took it up, and in 1937 their book was published. They collected records of 444 cases from all over the world, including several that Bivin had seen himself. Apart from this there has been little recent literature on the subject and English writers particularly seem to have ignored it.

History of the etiological theories is interesting and though some of them appear to us to be somewhat fantastic, it must be remembered that we know today very little of the true nature of the condition, in spite of having so many aids to investigation at our disposal. The earliest theories concentrate on a physical basis for the condition, while more recently the psychological side has been in greater prominence. It is inevitable that with the recent rapid growth in the science of endocrinology, writers of this century should attempt to correlate hormonal dysfunction with pseudocyesis.

Hippocrates thought the abdominal distension was due to a combination of excess air in the stomach and retained menstrual fluid. Harvey suggested a similarity in the effect of coitus on the brain and the uterus. The functions of both are, as he pointed out, termed "conceptions," and he adds that it is possible that "the woman should be impregnated by the conception of a general immaterial idea and become the artificer of generation." Mauriceau (d) in 1721 regarded the swelling as of uterine origin and caused by "strange matters as wind mixed with waters." La Motte in 1746 agreed with him. Chapman (e) in 1864, regarded excessive coitus in the newly married, the menopause and uterine displacements as important etiological factors. His displacement theory was that the abdominal muscles were thereby put on the stretch so that the fibres contracted irregularly and spasmodically thus imitating foetal movements. Simpson (f) in 1871 disproved the theory of intestinal distension by passing a rectal tube while the abdominal swelling was subsiding during induction of anaesthesia. No air escaped. He believed that diaphragmatic spasm pushing the intestine down in the abdominal cavity was the main factor concerned. His speculation on corpus luteum, over-activity simulating pregnancy is interesting in the light of more recent work.

Meantime, many others were doubting the part played by gaseous distension. Tichenor (g) in 1879 quotes Meigs, who writes: "It is against physiology, against pathology, and it flies in the face of common sense to talk of wind distending a material like a womb. Air is too subtle to remain quietly locked in a bottle that has no cork in it."

In 1891 Haultain (h) did an interesting experiment to prove that abdominal distension might be due to muscular contraction. He passed a faradic current through the abdominal muscles of an anaesthetised woman and reproduced the swelling that was there before the anaesthetic was administered. He regarded flatulent distension as the secondary effect of the muscular contraction. The "prime cause" was, he said, purely nervous.

A few years later much attention was paid especially in France, to hysteria in relation to pseudocyesis. Bouchacourt (i) wrote of "delirious conception." When he asked Charcot's opinion on the hysterical basis of the condition, the reply was "Hysterical, no: mental, yes." In 1911 Janet (j) showed that under the influence of suggestion respiration could be made of costal type with depression of the diaphragm and abdominal distension which he ascribed to loss of tone of the abdominal wall. This seems to be a contradiction of Haultain's theory. At about the same time Meynet (k) had no doubt that the condition was hysterical, and quotes Babinskis definition of hysteria as "a psychic state which renders the subject capable of autosuggestion."

In more recent times Berkeley3 has compared the diaphragmatic spasm of pseudocyesis with hysterical fixation of a joint. Recent Scottish writers, Johnstone3 and Kerr, et alia4 recognise the probable cause as hysterical abdominal fixation, with diaphragmatic spasm and an associated intestinal distension. The group of authors just mentioned discuss disturbed hormonal activity. This aspect of the subject has been studied by Halban5 and Wagner6, who describe cases where a corpus luteum cyst has caused amenorrhoea.
Fig. 11.—Standing up: before operation.
Fig. 12.—Lying down; after operation.
December, 1946

PSEUDOCYESIS

breast activity, vulval discoloration, softening of the cervix, and erine enlargement. In some of these cases a laparotomy was performed for a suspected ectopic gestation. Maconohi7 has described two cases of decidual reaction in women whose husbands were sterile. He correlates this with pseudopregnancy in animals.

In an effort to classify the confused ideas on the etiology of this condition, Bivin made a detailed analysis of the 444 case records he had been able to collect. Some rather unexpected facts as well as many more obvious ones were brought out. In 73 per cent of the cases where age had been noted it was between 15 and 39 years. The figures did not bear out the usually accepted theory that the condition is commonest in newly-married women, and in those at the menopause. Nearly three-quarters of the patients were married. Of them 21 had re-married and there seemed to be some increase in the frequency of pseudocyesis at the beginning of a second marriage. Parity and social status did not bear any constant relation to the condition.

The emotional stability of the patients was studied from the data available. Though a neuropathic tendency was fairly common it was by no means invariable. The desire to have a child was frequently stressed, but in 31 cases of the series there was definite fear of pregnancy. A few multiparous patients were said to be quite indifferent to having another child. Hysteria had been diagnosed in 34 cases, but in some there seemed to be little ground for the diagnosis. Suggestion or auto-suggestion seemed in some patients to play an important part. This occurred especially in newly-married women who missed a period or two and were told by a doctor that pregnancy was probable. Conviction that she was pregnant was shared by all cases.

The symptoms and signs of pregnancy have all been noted on several occasions. In over half of Bivin’s series there was complete amenorrhoea. In many cases menstruation was irregular. Whitridge Williams8 notes that menstrual irregularity rather than amenorrhoea is more common in the younger women. In over half of the amenorrhoeic patients the duration was nine months or more, but many of these were approaching the menopause. Several cases are recorded in which menstruation occurred within a day or so of the woman being told she was not pregnant.

Abdominal enlargement was present in all except three of the cases in which the abdomen was described. The indefinite outline of the enlargement is stressed. In many cases the swelling was gradual and corresponded to the time of amenorrhoea. “Foetal movements” were very frequently noted and usually occurred at the expected time. Whitridge Williams8 describes movements which the patient feared were visible to onlookers. The “foetal heart” is said to have been counted by doctors on several occasions.

Breast changes are of frequent occurrence and were described in more than one third of the series. Though activity of breasts can be discounted in parous women, milk secretion was recorded in some of the nulliparous cases.

Nausea, vomiting, constipation, and capricious appetite are common. Mary Tudor is said to have had severe nausea.

Labour was simulated in a large number of Bivin’s series and in pre-anaesthetic days, Caesarean section was performed for some cases. Apparently there was a remarkably realistic “labour” in some nulliparous cases.

The duration of the pseudocyesis varies enormously: 43 per cent of Bivin’s cases lasted nine months. Jana9 describes a true pregnancy following pseudocyesis in a woman of 18. Except for four days bleeding following “labour” at the 280th day there was amenorrhoea for 19 months. Montgomery (1) tells of a lady who consulted Dupuytren declaring she was 18 years pregnant. He advised her to swallow a private tutor for her son!

The diagnosis has in many cases caused difficulty. One hundred and sixty recorded cases have deceived doctors. In days gone by there was much more excuse for mistakes to be made as antenatal care was so infrequent and many patients objected to any examination. Today it is easier to disprove “pregnancy” by anaesthesia, a Friedman test, or a radiogram. Difficulties arise only because pseudocyesis is not considered. The differential diagnosis is between abnormalities of pregnancy, abdominal tumours, distended bladder and ascites as well as a straightforward pregnancy. Those who have missed a case of pseudocyesis may take some comfort from De Lee10 who says “Pseudocyesis has baffled the diagnostic ability of the ablest surgeons and accoucheurs.”

The treatment is a more difficult problem even than diagnosis because it is frequently almost impossible to convince the patient that she is not pregnant, and as Smith (m) says, “All women who are finally told they are not pregnant hate the physician and do not believe him.” Deceit was practised by a few of the older physicians one of whom, for example, told the woman he had removed a stillborn child. Unfortunately she then became convinced she had twins. Especially in France in the early part of this century hypnosis and suggestion were given trial with some good results. It was said that suggestion needed an “incubation period” before it became effective.

Anaesthesia was first used in these cases by
Simpson (f) in 1849 and though the distension may return when the patient regains consciousness, a cure is sometimes effected. It is well to have relatives present so that they may help to convince the patient she is not pregnant if the swelling returns. Drugs have been frequently used to start menstruation, but it seems likely that their efficacy is due to suggestion. Other treatments that have probably acted in the same way are massage, replacement of the uterus by a pessary and curettage.

Mrs. I. B., para 0, aged eighteen, first attended a hospital ante-natal clinic on July 3, 1940. She gave a history of amenorrhoea since January 28, 1940. Previously she had had a regular menstrual cycle of 4–5/28 days since the menarche at the age of fourteen. She complained of breathlessness on exertion and ankle swelling, and, as she had been in hospital in 1936 as a case of early mitral stenosis, she was admitted for investigation. Scrutiny of her previous notes showed that she had been seen by the psychiatrist at that time on account of emotional instability, but he could find no evidence of hysteria. One of the clinicians who saw her noted lower abdominal fullness. She had been married since November 1939, and was very anxious to have a baby. Pre-marital intercourse was acknowledged. About two months after the last period at the end of January, she had nausea and occasional vomiting for about a month. When this was improving she noticed an increase in the size of her breasts and says that clear fluid came from them. In the fourth month her abdomen started to enlarge, and continued to do so till after she attended our clinic. On May 14th she had slight blood-stained discharge for a day.

Examination showed a pale, plump girl who was unduly mature for her age. The breasts were apparently active. The abdomen was difficult to palpate owing to obesity and poor relaxation, but gave the impression of a 26 weeks' pregnancy, i.e. a little bigger than her dates. The foetal heart was not heard, but the patient said she had felt movements for the last few weeks. No evidence of cardiac failure was found, and her dyspnoea and history of oedema were attributed to anaemia (haemoglobin 68 per cent).

Progress.—After rest, a well-balanced diet (which was unusual for her), and iron therapy, she was discharged from hospital a fortnight later feeling much better. A week later she was readmitted on account of a slight show and backache. Threatened premature labour was diagnosed and she was treated with progesterone and vitamin E, and after four days bleeding ceased. She was kept in hospital for a fortnight. The notes show that at that time the uterus appeared to be about the size of a 30 weeks' pregnancy, but that the presentation was difficult to make out. The foetal heart is said to have been heard and the patient was feeling movements.

On August 26th, a fortnight later, she was again admitted, complaining this time of lower abdominal pain and recurring vomiting. Examination showed an abdomen slightly more enlarged than previously. The foetal heart was not heard, and it was considered that foetal death must have occurred recently. Two days later bleeding started again, and the patient was told that the chances of the baby's survival were small. This distressed her considerably. On this occasion for the first time the patient was seen by the Director of the unit.

It was noticed that the abdomen was hyper-resonant, and the possibility arose that a pregnancy did not exist at all. The abdomen was diffusely enlarged, especially below the umbilicus (girth 37 in.), but the "tumour" had no definite edge. Foetal parts could not be felt. There was no thrill nor asciites. Examination of the vulva did not show suggestive discolouration, but the cervix was slightly softened. The uterus could not be definitely defined. The breasts were large and showed Montgomery's tubercles, but secretion could not be expressed. Friedman examination was negative and X-rays showed no foetal parts. A barium enema excluded a colonic lesion.

A tentative suggestion of pseudocyesis was made, but we were somewhat unwilling to consider this possibility seriously in so young a patient. To determine the diagnosis, she was prepared for examination under anaesthesia. After induction with gas, oxygen and ether, on September 20th, the abdomen became soft, distension almost completely disappeared, and there was no evidence of any tumour. Girth was then 33 in. Vagal examination showed a uterus normal in size and position. The accompanying photographs (Fig. 1 and 2) show the abdominal contour the day before and a few hours after the anaesthetic.

The next day the girth was increased to 36 in. The patient was told she was not pregnant, but as she had reconciled herself to the death of the "foetus" she was not unduly distressed. Two days later she was discharged.

Follow-up.

November 4, 1940.—Attended out-patient after a holiday in the country. She had been well except for an attack of faintness in the previous week. Bleeding had started on the day of discharge and lasted four days. It recurred on October 16th and continued for a week.

Girth 33 in. Montgomery's follicles still apparent. P.V., Cervix soft. Body of uterus and appendages showed no abnormalities. There was no evidence of pharyngeal 'glove and stocking' anaesthesia.

November 15, 1940.—Endometrial biopsy taken on the 30th day of the cycle showed a somewhat atrophic endometrium but with some evidence of secretory activity.

November 19, 1940.—Seen by the same psychiatrist who had seen her in 1936. He suggested that "amenorrhoea occurring two months after her marriage combined with the previous tendency to fullness of the abdomen served to complete the essentials of the picture." He advised further psychological investigation of the causes of her belief that she was pregnant.

This case illustrates how, even at the present day, cases of pseudocyesis can be missed. The moral is that in every case of suspected pregnancy where the outline of the uterus cannot be clearly defined, further investigation with X-ray or biological tests should be carried out.

I would like to thank Professor James Young for permission to describe this case.

Conclusions

It is difficult to draw any satisfactory conclusions with regard to this subject which has baffled the masters of obstetrics, psychology, and medicine for so many centuries. The etiology is still obscure, but it is hoped that when more is known of the interrelation between psychology and endocrinology the position will be clearer.

Macgregor has shown that 60 per cent of cases of secondary amenorrhoea where no pathology is present are due to psychological upsets. The emotional reactions of sexual intercourse may cause temporary amenorrhoea thus making the woman believe herself to be pregnant. In some cases, especially if there is a neuropathic tendency
and when for some reason pregnancy is of especially great importance to the woman, abdominal enlargement and other symptoms follow the amenorrhoea. Diaphragmatic spasm seems to be the most plausible theory of the cause of the distension because of the rapid effect of anaesthesia. If diagnosis cannot be made clinically with certainty, radiograms and Friedman tests will show conclusively whether or not the woman is pregnant. It is important to bear in mind the possibility of pseudocyesis in any atypical "pregnancy" for most mistakes arise at the present day because this diagnosis is not considered. Anaesthesia is a valuable combined diagnostic and therapeutic aid. If the patient still believes herself to be pregnant after the anaesthetic treatment along psychological lines should be given a trial.

REFERENCES
10. Dr. Lee, J.
11. Macgregor.

Quoted from Binin, G. D. and Klinger, P.: (a) Good, J. M. (1823), A Physiological System of Nosology with Corrected and Simplified Nomenclature, 448.
(b) Payot, C. (1889), Traite d'obstetrique et de gynécologie; précédé d'elements de pratique obstetrique, 679.
(c) Harvey, W. (1847), The Works of William Harvey. Translation by Willis, 324.
(d) Mauriceau, F. (1721-8), Traitè des maladies des femmes grossesse de celles qui sont accouchees, 6th ed. 555.
(g) Tichenor, E. J. (1879), "Phantom Tumour or What Is It?" Obst. Gaz., 2, 7-12.
(j) Janet, P. (1911), L'état mental des hysteriques, 2nd ed. 708.
(l) Montgomery, F. W. (1857), Signs and Symptoms of Pregnancy, 5685.

MODERN TREATMENT OF VINCENT'S INFECTION

By F. W. E. Wagner, M.A., sc.D.

Fellow of the Royal Academy of Medicine in Ireland. Fellow of the Royal Society of Tropical Medicine

It is a true estimate to say that the incidence of Vincent’s Infection has increased to an alarming extent during recent years. We must recognise this disease as a grave menace to the health of the nation, and that at a time when health, strength and vigour are more than ever necessary for the work of restoration and reconstruction. Never before was the national need so great for healthy bodies and healthy minds. As a nation we are suffering from under-nourishment, unhygienic and inadequate housing conditions and war-strain. It is apparent in the poor physique and the lack of stamina so painfully evident in modern life. Capacity for resisting infection is today at a low ebb.

The incidence of Vincent’s Infection is particularly heavy amongst industrial workers; and this is probably due to transmission of infection by imperfectly cleansed spoons, forks and drinking vessels in Works Canteens. This fruitful source of infection should be first on the list for attack in any organised and effective campaign. Steps should be taken to bring home to workers the gravity of the disease, the importance of avoiding infection and of obtaining skilled treatment in the early stages. It is unfortunate that the general public does not at all appreciate the gravity of Vincent’s Infection, or its far-reaching systemic consequences. The mere matter of an inflamed condition of the gums seems to most lay persons a comparatively trivial thing, with the unhappy result that they do not seek advice and treatment until the disease is in its advanced stages with most of its evil sequelae in full play. This may be explained by the fact that in the earlier stages the two factors which usually impel people to seek medical or dental treatment—pain and impairment of function—are absent. The individual is not the only sufferer by reason of this procrastination; the community suffers too, for the infected person is a source of potential danger, since he infects every drinking-vessel, spoon or fork that he uses. Early diagnosis and early treatment are of the utmost importance for the patient’s own sake, to prevent the development of remote systemic consequences, and also to check the spread of the disease. May I repeat that Vincent’s Infection is today a grave menace to the public health? I base that considered opinion on the experience of a large and busy dental practice which deals with a considerable number of industrial workers in an important centre of industry. The number of those who