FIG. 4.—Changes in prothrombin content and icterus index in cases of cholecystitis and cholelithiasis (healthy liver) and chronic hepatitis and cirrhosis of the liver (damaged liver).

of the liver may indicate some disturbance in prothrombin formation by the liver. The similar good effects, however, of vitamin K in acute hepatitis and obstructive jaundice show that the parenchymal damage in acute hepatitis affects the prothrombin-producing capacity of the liver only slightly.

Summary

An investigation is made into the effect of oral vitamin K on cases of jaundice, especially those due to acute hepatitis.

Vitamin K did not affect the course of the disease in 178 cases of acute hepatitis. When compared with controls the effect on the blood prothrombin level was obvious only in cases of severe acute hepatitis (Meulengracht 80 and over). In these instances the effect of the oral vitamin was good.

A comparison between treatment of acute hepatitis and of obstructive jaundice failed to show any difference in the effect on the prothrombin value. This indicates that even in cases of severe hepatitis the liver damage does not seriously affect the prothrombin-producing capacity of the liver. Furthermore, it shows above all that decrease of the prothrombin value results from defective vitamin-K absorption in the intestinal tract.

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The annual report for 1951 of the Greenwich and Deptford Hospital Management Committee gives some figures to show the amount of work being done by the typical general hospital. St. Alfege's Hospital, Greenwich, has 504 beds, of which only 366 are staffed and open. In addition, the committee controls the 180 beds of the Miller General Hospital, so there was a total of 684 general beds available, receiving over 10,000 in-patients in the year. The operating-theatres performed nearly 9,000 operations (about 5,000 of them major), and there were 867 live births in the maternity unit. Thus each bed was occupied on the average by 15 patients in the year, for an average stay in hospital of just over three weeks each. Among the work of the special departments may be noted 34,798 x-ray examinations, 52,480 blood and other specimens investigated in the pathological laboratories, and 4,142 E.C.G.s taken. Some of this work was, of course, for out-patients. Just under 26,000 new patients were seen here, and there were over 58,000 attendances in the casualty departments.

STRESS INCONTINENCE

A PRELIMINARY REPORT ON A NEW METHOD OF TREATMENT*

BY

G. GORDON LENNON, Ch.M., F.R.C.O.G.
M.M.S.A.

Professor of Obstetrics and Gynaecology, University of Bristol

For many years I have been interested in stress incontinence. I have practised most of the methods of repair: anterior colporrhaphy, "buttressing" of the urethra, sling procedures such as Aldridge (1942), Studdiford (1944), Millin I (Millin, 1947) and II (Millin, 1950). So many times has this subject been debated recently and so many different operations have been advised that I almost hesitate to raise the matter again, but my dimming embers of interest were fanned afresh by still another operation, Mulvany (1951). One must pay close attention when a surgeon summarizes his work as follows: "A simple operation, vesico-urethrololysis, for the cure of stress incontinence in women, is described. In a series of 58 cases extending over a period of three years bladder function was restored to normality in all by the operation, and the improvement has since continued unchanged." My immediate reaction to this summary, not an unreasonable one, was one of distrust. I thought that the sooner confirmation or rejection was made, so much the better.

Mulvany's Operation

Mulvany's operation consists in mobilization of the bladder and urethra through a small transverse suprapubic incision and traversing of the retropubic space. The bladder is freed from the back of the symphysis pubis and its lateral supports are also mobilized. Mulvany thinks it likely that the degree of freedom afforded to the sphincter area by manipulations required to prepare the bladder-neck site for the insertion of urethropexy or bladder-raising sutures permits the sphincter muscles to retract and thereby regain normal function. This mobilization of the bladder-neck is a step common to all sling procedures. It is also reasonable to say, although Mulvany does not say so, that while the baby's head is coming through the pelvis the bladder-neck is pressed against the back of the symphysis pubis, and, because of the rich venous plexus there, haematomata may result, giving rise later to adhesions. These are very real arguments in favour of Mulvany's vesico-urethrololysis.

Personal Results

I have performed this mobilization in 23 cases, but have not always used Mulvany's suprapubic approach. In some cases I used the Millin II incision between the external urinary meatus and clitoris to reach the retropubic space. In other cases I have mobilized the bladder off the back of the symphysis through an anterior vaginal wall incision, and then have passed a finger up either side of the urethra through the pudendal diaphragm. I must stress that mine are immediate results, and not long enough has elapsed to assess late cures. I therefore regard this as very much a preliminary report.

Out of 23 cases 21 have been immediately cured. One of the failures was an early case which was done through the Millin II approach and in which a tight band of fibrous tissue, resulting from a previous colporrhaphy, was not cut through. I know now that if I encountered a similar condi-

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tion I would use the anterior vaginal wall approach and would cut through that band. A further operation was not done in this case because the woman had secondaries from a carcinoma of the larynx.

The other failure was in a case of moderate cystocele in which mobilization was again done through the Millin II approach. This woman has not yet had the cystocele repaired, but I feel confident that, when it is, the stress will be finally relieved. In this connexion Mulvany (1951) states: "The writer used to confine the suprapubic route to those cases of stress incontinence requiring also an abdominal operation and the vaginal one for those in need of repair, but these excellent results have prompted its employment also in the early to moderate prolapse, especially if there is a likelihood of future child-bearing, as in most cases it is the stress incontinence and not the prolapse which is the most prominent and troublesome feature." I cannot agree with this, and my results show that support from below is as important as mobilization.

Latterly, therefore, nearly all my cases have been done through an anterior vaginal wall incision, whether prolapse was present or not. The procedure when this approach is used consists of: (1) dissection of urethra and bladder-neck; (2) rupture of pudendal diaphragm by index finger or blunt scissors on either side of urethra; (3) pushing the bladder off the back of the symphysis pubis; (4) removal of redundant vaginal mucosa, if any; (5) re-uniting vaginal mucosa and para-urethral tissues. This operation now constitutes part of any prolapse operation when stress incontinence is present.

Many of my cases, but not all, had had several previous operations for prolapse and stress incontinence. One case had also had an Aldridge sling operation by another surgeon, but had not been improved. During operation on that case (suprapubic approach) no evidence could be found of the fascial sling inserted one year before. An immediate post-operative urinary infection tended to obscure the successful result, but one important point made by the patient (and since asked of other patients) was that she could now feel urine passing through the urethra. When the urinary infection was overcome the incontinence was completely relieved.

Conclusions

It would be wrong of me to make statistical deductions with so few cases. But my experience, gained in the study of many other procedures besides the present series, leads me to the following conclusions.

1. That cases of stress incontinence require careful radiographic and cystoscopic investigation, apart from clinical neurological examination, before operations are performed. There is nothing new in this, as has been repeatedly pointed out by Millin (1950) and Winsbury-White (1948). Measured cystography has shown that there is often a slight increase in descent of the bladder-neck after mobilization, although the stress is cured.

2. That Mulvany has introduced a new aetiological concept and an operation which has formed part of many sling procedures of the past.

3. That Mulvany's mobilization is not necessarily a sufficiency in itself. There must be adequate support to the bladder-neck from below. These two factors—mobilization and support from below—can be accomplished through an anterior vaginal approach. There should be no need for sling procedures if this is so.

4. That the mobilization can either be done from above in the absence of prolapse (as an accompaniment of an abdominal operation) or from below during plastic repair operations even when the urethral bulge is minimal.

5. That these cases require careful post-operative assessment of cure. Often the stress is replaced either by frequency because urinary infection is common, or

by urgency, particularly when the bladder is full—for example, in the morning. Urethral sensation of flow in some cases accompanies successful cure of stress.

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ICTERUS GRAVIS AND CIRRHOSIS OF THE LIVER

BY

JOHN GERRARD, D.M., M.R.C.P.

Lecturer in Paediatrics, University of Birmingham

Braid and Ebbs (1937) reported the case of a child who had been deeply jaundiced in infancy, who subsequently developed coarse multilobular hepatic cirrhosis, and who died at the age of 3 years and 8 months, after a haematemesis. This child, the second and last in the family, became jaundiced on the third day of life. The jaundice persisted for two months, by which time the haemoglobin was 74% and the red blood corpuscles numbered 3,900,000 per c.mm., 5.8% being reticulocytes. At the age of 1 month the liver was firm and hard, and its lower edge reached the level of the umbilicus; the spleen was never felt during the neonatal period, but became palpable at 5 months. At the age of 3 years 8 months the child was readmitted to hospital with ascites; a few days later she had a haematemesis and died.

Drummond and Watkins (1946) have more recently given details of three families, in two of which Rh iso-immunization may have been the cause of hepatosplenomegaly in the children; but in these families the early history was not suggestive of Rh iso-immunization, for the affected children were never noticeably jaundiced or anaemic in infancy. Moreover, the maternal serum in each case contained no detectable Rh antibody; in one case this was only five years after the birth of the last child in the family—this child had died, deeply jaundiced, on the third day of life—and in the other case only two years after the last of three successive stillbirths. My own experience (Gerrard, 1951) suggests that, once iso-immunization has occurred, Rh antibodies persist for at least eight years, and often longer. However, both mothers in the two families mentioned above were eventually sensitized, for each had a rigor and each produced Rh antibodies when transfused with Rh incompatible blood. In Drummond and Watkins's third family the early history, as in Braid's case, was suggestive of Rh iso-immunization, for the affected child became jaundiced within a day or two of birth, and the jaundice persisted for three months; but in this instance Rh iso-immunization was excluded as a causative factor.

Nussey (1949) has also recorded a family in which Rh iso-immunization may have been the cause of hepatosplenomegaly in three siblings, but the early history of this family was not suggestive of Rh iso-immunization, for none of the three children with hepatosplenomegaly had ever been noticeably jaundiced or anaemic in infancy, and, though the children were Rh-positive and the mother Rh-negative, the maternal serum contained no Rh antibodies either in saline or in albumin. This was 17 years after her last pregnancy, by which time she might well have lost her antibodies.