cannot be regarded as significant. The answers to the remaining questions also showed no significant difference between the three types of injections.

Since the three kinds of injections could not be distinguished, they must be assumed to have had no physical effect as a tonic. All 227 injections can therefore be regarded as placebos, irrespective of the contents of the phial.

Differences Between Groups.—In Table I the results are divided according to the group to which the subject belonged. Again saline was not appreciably inferior to liver

TABLE I.—Answers to Question "How Do You Feel?"

		Group I		Group II		Group III		Group IV		Total	
		%	No.	%	No.	%	No.	%	No.	%	No.
Plexan	Better	11	1	14	3	69	9	70	23	48	36
	Same	78	7	81	17	31	4	24	8	48	36
	Worse	11	1	5	1	—	—	6	2	4	4
Vitamin B ₁₂	Better	17	3	23	3	64	7	73	24	49	37
	Same	83	15	77	10	27	3	24	8	48	36
	Worse	—	—	—	—	9	1	3	1	3	2
Saline	Better	16	3	16	2	64	9	61	19	43	33
	Same	79	15	84	10	29	4	29	9	50	38
	Worse	5	1	—	—	7	1	10	3	7	5
Total	Better	15	7	16	7	66	25	68	66		
	Same	81	37	82	37	29	11	26	25		
	Worse	4	2	2	1	5	2	6	6		

or vitamin B₁₂. There is, however, a marked difference between the groups; an improvement was reported many more times in Groups III and IV than in Groups I and II. This difference must be explained by the degree of suggestibility of the patient or the degree of suggestion employed by the doctor.

In Group I the doctor in charge was strictly neutral. He explained that it was a trial. The subjects—young Service personnel—were probably less suggestible than those in other groups. In Group II another doctor selected from his chronic ward patients whom he thought would be reliable witnesses, and asked them to "try to distinguish between the injections, some of which were supposed to be a tonic." Group III injections were given by a strictly neutral sister, and no mention was made of a "tonic," the patients assuming that the injections were for their rheumatism. The high degree of improvement reported may have been due to the general air of optimism in a physiotherapy department dealing with a chronic disease. The patients in Group IV had asked their doctor for a tonic, and by so doing had virtually declared themselves as mentally unwell.

Differences Between Sexes.—In Groups II and III the females reported more improvement than males, owing presumably to the greater suggestibility of women. There was no such sex difference in Group IV, consisting exclusively of the self-declared mentally unwell.

Differences Between Questions.—On the whole within each group the percentage of replies reporting better, same, or worse was about the same for each of the four questions, but there were exceptions. The percentages of answers reported after the 97 injections given by the general practitioners are shown in Table II.

TABLE II.—Results in Group IV

		Plexan	Vitamin B ₁₂	Saline	Total
Feel	Better ..	23	24	19	68%
	Same ..	8	8	9	26%
	Worse ..	2	1	3	6%
Energy	Better ..	24	18	20	64%
	Same ..	8	14	8	31%
	Worse ..	1	1	3	5%
Sleep	Better ..	12	12	11	36%
	Same ..	18	20	15	55%
	Worse ..	3	1	5	9%
Appetite	Better ..	11	9	12	33%
	Same ..	22	22	17	63%
	Worse ..	—	2	2	4%

The great improvement in the sense of well-being and energy contrasts with the slight improvement in sleep and appetite. This presumably indicates that it is easier to persuade oneself of an improvement of a feeling which is entirely subjective than to persuade oneself of an improvement in a function that has some measure of objective assessment.

Conclusions

The patients investigated could not distinguish between injections of liver, vitamin B₁₂, and saline. The reported effect of the injections probably depends on the suggestibility of the patient and the attitude assumed by the doctor. Women appear more suggestible than men, and subjective sensations are more likely to be influenced than those capable of in part objective assessment.

Summary

A total of 227 injections of liver, vitamin B₁₂, and saline were given to four groups of non-anaemic patients.

The "tonic" effect of an injection of saline was no less than that reported after an injection of liver or vitamin B₁₂. The reason for the different trends of the answers between the groups is discussed.

My grateful thanks are due to the following for giving the injections and thereby enabling this study to be achieved: Drs. M. C. Cooper, S. M. Davidson, J. A. Ewing, H. A. W. Forbes, P. Metcalfe, A. R. Walker, F. L. Willington, and Mr. M. H. Salz. My thanks are also due to Messrs. Glaxo Ltd. for preparing and disguising the ampoules.

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Medical Memoranda

A Case of Carcinoma of Colon Presenting as Pyelitis

Vesico-colic fistula is a well-known but rare complication of either diverticulitis or carcinoma of the pelvic colon. Rarer causes are trauma, carcinoma of the bladder, tuberculosis or actinomycosis of the bowel, and carcinoma of the ovary.

The characteristic symptom is pneumaturia and the passage of small flakes of faeces per urethram. Before the formation of the fistula occurs, however, there may be attacks of cystitis. Infection of the upper urinary tract is rare, and in 16 of Edward's (1948) cases occurred only once. In the following case two attacks of pyelitis occurred five months before the onset of pneumaturia.

CASE REPORT

A man aged 47 was admitted to the London Hospital on August 13, 1951. Five months previously he had been admitted to another hospital with acute pyelitis. He had rigors, severe pain in the loins, suprapubic pain, severe dysuria, and increased frequency of micturition. His symptoms improved after a course of potassium citrate and "sulphatriad." Subsequent cystoscopy, intravenous pyelography, and barium follow-through showed no abnormality. Two weeks later he again developed severe pain in the loins, and this persisted. Ten days before admission he noticed passage of gas per urethram and that his urine was very dirty.

Five days before admission he was seen in the out-patient department of the London Hospital. Cystoscopy failed because the urine was so dirty. It contained pus, and *Bact. coli* grew on culture. On examination he was a sallow, ill-

looking, and very nervous man. There was some tenderness in each loin, but no other abnormal signs. On August 15 a barium enema was inconclusive, but suggested an organic obstruction in the pelvic colon. The patient would not retain enemata, and at the examination the lower bowel was loaded with faeces. Sigmoidoscopy the next day failed for the same reason, but cystoscopy showed the presence of a vesico-intestinal fistula far back on the bladder base, just to the right of the midline. Sigmoidoscopy to 15 cm. was repeated on August 21, but no abnormality was detected.

Laparotomy was performed on August 23. A loop of pelvic colon was densely adherent to the bladder, and a large hard tumour was palpable at this site. The liver, omentum, and peritoneum were studded with deposits of secondary growth, and a small piece was removed for histological section. The pelvic colon was divided above the growth, the distal end embedded, and the proximal loop brought out as a terminal colostomy.

The histological report was "secondary trabecular, polygonal-celled, rarely tubular columnar-celled carcinoma in omentum, compatible with a primary in colon."

The colostomy acted on the sixth day. Pneumaturia and dysuria persisted until the seventh day, but thereafter micturition was painless and of normal frequency. The patient was discharged on September 25 and died on December 2, 1951.

I am grateful to Professor V. W. Dix for permission to operate on this patient and to publish the case.

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Torsion of the Puerperal Uterus Associated with Red Degeneration of a Fibromyoma

Torsion of the uterus is a rare complication of the puerperium, and I have been able to find only one case in the literature. Trillat, Michon, and Dargent (1932) described a patient admitted 15 days after her confinement with puerperal pyrexia. The early days of the puerperium had been normal, but her temperature was found to be raised on the eighth day and uterine involution was delayed. About four weeks after delivery a phlebitis of the left leg developed and a week later a similar phlebitis of the right leg. It was thought that she had an intrauterine infection and laparotomy was undertaken. No adhesions were present, but the uterus was enlarged to the size of a foetal head and had undergone torsion at the level of the isthmus through 90 degrees from left to right. As it was thought that a haematometra was present, it was decided to undertake subtotal hysterectomy, but after operation it was found that the enlargement of the uterus was due to a fibroid which had undergone red degeneration. The temperature fell to normal during the 24 hours after operation and the bilateral phlebitis underwent rapid and spontaneous cure.

The authors comment on the absence of pain and bleeding in association with a marked degree of red degeneration. They observe that pregnancy stimulates growth of uterine tumours and particularly predisposes to degeneration. After delivery, however, the myoma usually regresses, but it appeared that in this case the fibroid grew in size during the puerperium, and it seems probable that the red degeneration had occurred entirely after the pregnancy had been completed. It also seems likely that the enlargement of the uterus and degeneration may have been promoted by the torsion of the uterus, which interfered with the free circulation to the tumour, and this same factor had probably played a part in the causation of the double phlebitis. From the point of view of treatment, the only logical conduct according to the authors was laparotomy, but they regret not having carried out a myomectomy in this young woman. Owing to the fact that they believed that the

uterus contained a haematometra, however, they would not have dared to undertake this operation even had they recognized the presence of a fibroid. Finally, they point out that phlebitis should not be a contraindication to operation if there is a pelvic lesion which may be playing a part in the causation of the phlebitis.

A somewhat similar case has recently been observed.

CASE REPORT

The patient, aged 33, had been delivered of twins at the 38th week of her fourth pregnancy. Soon after delivery she developed a marked pyrexia, her temperature swinging up to 101° F. (38.3° C.), and this had been treated with penicillin, but persisted for two and a half weeks. During this time she had some abdominal pain, and slight pain persisted when I saw her five weeks after delivery. All the pyrexia had settled down. She was pale (Hb 62%), but her general condition appeared to be fairly good. Examination of the abdomen showed a tumour the size of a 28-weeks pregnancy which was solid, slightly fluctuant, and only slightly tender. Pelvic examination confirmed that the tumour was uterine, that the os was closed, and that there was a very little mucoid discharge from the uterus. The possibility of a third foetus was considered, but the appearances of the abdomen did not confirm this, and it appeared that we were dealing with a large uterine fibroid which must have coexisted with the twin pregnancy, and had indeed, according to the patient's doctor, produced a formidably distended abdomen.

On January 22, 1952, laparotomy was undertaken and the presence of a large fibroid uterus confirmed. The uterine fundus was firmly wrapped round with omentum, but this was separated off without much difficulty, and it was evident that the uterus had undergone axial torsion through 180 degrees at the level of the isthmus. The right tube and ovary had been displaced across to the left side of the abdomen, and the left tube and ovary lay posteriorly on the right side. This torsion was undone without difficulty, and, in view of the fact that the patient already had five children, total hysterectomy was carried out, both appendages being preserved. Section of the uterus showed that the large fundal fibroid, whose diameter was 14 cm., had undergone red degeneration and that the myomatous elements were extremely necrotic, only the collagenous stroma being relatively well preserved. The uterine cavity was a little enlarged, its total length from the external os being 4½ in. (11.4 cm.). There was no evidence of malignancy. The patient made an uneventful recovery and was discharged home on February 2.

COMMENT

In this case, as in the case of Trillat, Michon, and Dargent described above, it appears probable that torsion of the puerperal uterus had been initiated by the weight of the large fundal fibroid acting on the lax musculature of a previously distended uterus, the distension in this case having been particularly marked on account of the presence of a multiple pregnancy. There had been no infection of the uterus, but the pyrexia which had been observed during the puerperium had probably been due to the red degeneration of the fibroid, resulting from interference with its blood supply consequent upon torsion. Subsequently, the condition had become less acute, probably as a result of some compensatory adjustment of the blood supply. The most remarkable feature of this case appears to have been the presence, during the pregnancy, of a fibroid of very considerable size, even if its maximum size was not reached in the puerperium until after the circulatory obstruction resulting from the torsion.

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