Another case was also that of an elderly man whose metacarpo-phalangeal joints were three months ago greatly enlarged with a pulpy synovial membrane and partial palmar dislocation of the joints, and whose knees and elbows were in much the same condition. He was put on the same treatment. There appeared to be little, if any, eburation of the bones, but much periarticular thickening and weakening of the ligaments.

In this case the thyroid gland could not be detected. After three months' treatment on the above lines he has more pliability in his joints, a good grasp, and can walk without his stick; he has more confidence in locomotion and more muscular control over his joints. On the whole he is much improved and still making steady progress.

In the writer's opinion the group of cases likely to receive benefit are those in which changes are chiefly confined to the synovial membranes, without erosion of cartilage or eburation of bone, such cases in fact as Schüller describes as "chronic villous arthritis."

In these cases, to which class both of the above belong, the local improvement is evinced by gradual softening of the pulpy synovial tissue under the influence of thyroid extract, the gelatinous feel under one's finger being replaced by a sensation of fluctuation. Subsequently absorption appears to take place, leaving a firmer, more useful joint, and at that stage adjuvant treatment by means of passive movement, massage of the neighbouring muscles (*not* the joint), and liniments are of great efficiency.

The liniment which the writer has found of great use has the following formula:

R. Unguent. hydrargyri	...	...	...	3ij
Olei nucis	...	...	...	3iv
Methyl. salicylatis	...	...	...	3j.
Fiat linimentum. Misce bene. Nocte utatur.				

The theory of the improvement is open to much discussion, but the writer is of the opinion that the cause of the pathological synovial change is metabolic, and that the chemical pathologist rather than the bacteriologist can find the key to the problem. Myxoedema is "characterized by an increase of connective tissue in and under the true skin," with "more than the usual amount of that substance (mucin) in the subcutaneous tissue."¹ There seems a distinct resemblance in the synovial deposits to the above condition in myxoedema, which may account for the influence of the thyroid extract on the pathological metabolism.

Further observation on the action of thyroid extract in suitable cases of rheumatoid arthritis would be of great interest and possibly also of great benefit to mankind.

REFERENCE.

¹ Stewart, *Manual of Physiology*.

A CASE OF INTESTINAL REFLEX.

BY

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In an interesting paper published some time ago in the *BRITISH MEDICAL JOURNAL* Mr. Moynihan points out some various symptoms which are caused by a diseased appendix—symptoms so varied in their nature and locality that it becomes difficult, and at times impossible, to localize the disease. The appendix, on account of its variable position and length, may be the cause of pains which are located in various parts of the abdomen. For instance, a long appendix may through adhesions become fixed in the pelvis, and in the female simulate affections of the organs of generation.

It may also become attached to some part on the left side of the abdomen, or when adherent to the ascending colon produce symptoms akin to those due to renal or hepatic disease. This condition of things cannot be otherwise; the abdominal sac is packed with organs mostly tubular, overriding each other, constantly altering in shape

and position, according to their being full or empty, to the position of the body, to the movements of respiration, to the length of their mesenteries, and above all to their common innervation. In the early period of embryogenic life the alimentary canal is a simple tube; its innervation is derived from the sympathetic system. At a later period the fore-gut is subdivided into higher structures—namely, the stomach, liver, part of the duodenum and the pancreas—and although much more complex in their structure and functions, they still retained their same nerve supply—namely, the sympathetic, and in addition a few fibres from the cerebro-spinal ganglia. The afferent branches which serve to control those parts pass into the hepatic, gastric, vagus, and solar plexuses.

These four organs occupy that space which is found in the right upper abdominal quadrant, and it is in that region that the greatest difficulty in forming a diagnosis lies. It is easy to understand that if any organ in that locality is acutely affected, that short of premonitory symptoms to assist the diagnosis is fraught with difficulties.

With such lines of communication the complexity of symptoms becomes extreme; the nerve storm spreads rapidly among all those parts. In a sudden rupture due to gastric or duodenal ulcer, in a first attack of gall or renal colic, without premonitory signals to help one, or rather without the knowledge of such, it is usually a matter of impossibility to decide on the locality primarily affected.

Lower down in the bowel contractions are of common occurrence, normally from peristalsis, and abnormally from an exaggerated form due to local trouble such as undigested food, fermentation, and pathological contraction, but also from nerve irritation from afar.

Case.—A lady, aged 30, 3-para, youngest child 17 months old. A very thin, haggard woman. Previous to the birth of her last child she had suffered from tapeworm, for which she had been treated heroically, ultimately getting rid of it. Since that she had suffered from abdominal pain with periods of obstinate constipation, looseness, straining, together with the passage of blood and mucus. She looked very ill and emaciated, she had not had any relief for ten days, felt sick but had not vomited. Her abdomen was easily palpated owing to the extreme thinness of its walls. Coils of bowels were felt and seen contracting from left to right. There were several hard masses in the bowel; the transverse colon had descended in the pelvis, forming there an acute angle. In the caecal region an invagination of the ileum into the caecum was clearly felt, the region over the lower margin of the liver was tender on compression, the gall bladder could not be felt. There was no history of gall stone colic or jaundice. Under the impression that the trouble was due to intestinal ulceration, an exploratory operation was advised. For several days previous to operating she was kept in bed and fed on digested food, and enemata of sweet oil were forced as high as possible; in less than a week after the bowel had been freely opened all the hard masses had disappeared and the invagination had lessened perceptibly. On the day of the operation, previously to being chloroformed, the invagination had completely disappeared.

The abdominal cavity was opened through the right rectus, the bowel looked quite normal, the appendix healthy, the appendages free from trouble; the right edge of the liver was seen to be protruding from under the ribs for about half an inch. On tilting up the lower edge of the liver, the gall bladder was found to be enlarged, of a grey blotting-paper colour, its shape quite unusual. The common duct was very broad and of the same shape and breadth as the bladder. There seemed to be no division between the gall bladder and the common duct, no cystic constriction; it was impossible to see where the bladder ended and the cystic duct began. Three calculi were found in the duct, the higher one about where the hepatic duct enters the common duct, the lower stone in the second part where the duct dips under the second part of the duodenum, and middle stone, which was the largest, between the two. The largest stone, the size of a small marble, was first cut out, and as the others could not be milked into the middle incision, they were cut out; a rubber drain was fixed into the central opening; the other cuts were sewn and drained. The gall bladder, when incised, was found full of small stones, the size of millet seeds. For the gall bladder condition alone cholecystectomy would have been best, but whether in such circumstances it should have been done in the presence of the other conditions, I did not think so.

I was anxious that thorough drainage should be done, and in view of some further necessity for treatment the advantage of having the gall bladder to assist the manipulation was important. The patient recovered rapidly, and up to the present, seven months since the operation, has had no return of her trouble. She is in perfect health; has never had any return of pain, has put on flesh, and does not suffer from constipation.