Some intra-abdominal viscera had ruptured. At operation a ruptured duodenal ulcer was found and dealt with. The feature about the case most deeply impressed upon my mind was the presence of a transverse ring of constriction across the abdomen at the level of the lower margins of the ribs, and extending into the flanks on either side.

I had not noticed this sign before, but since then it has often stood me in good stead in the diagnosis of ruptured digestive ulcers, particularly in an atypical case; my reason for recording it now is that it has just dawned upon me that as a helpful diagnostic sign this ring of constriction in perforated digestive ulcers is not generally known. Without claiming to have made an original observation, for at present I have no opportunity of investigating the literature of the subject, I have never previously either seen or heard this sign described. Some surgeons with experience of general hospital emergency work must be familiar with it. I cannot say definitely if it is limited to ruptured digestive ulcers, or if it is also seen in some other acute intra-abdominal lesions. My impression is that I have also seen it in one other instance, namely, a traumatic rupture of the jejunum high up, but I am not positive about this without reference to notes which are not at present accessible.

The constriction is usually present, and does not always disappear with general anaesthesia, although it does disappear when the condition has advanced to the stage of general abdominal distension. There is no marked hyperaesthesia, and the patient is quite unconscious of any feeling of tightness at the site of the constriction. It is not confined to spare or emaciated persons, and is a different thing altogether from the scaphoid abdomen seen in emaciation, etc. The appearance is as if an invisible rope was constricting the abdomen, dividing it into an upper portion which has a convex aspect centrally, and a normal lower part. Viewed laterally, the region of the "rope"

forms the apex of a vertically situated obtuse angle. It may be that it is an attempt of nature to limit the effects of the perforation to the upper portion of the general peritoneal cavity. The sign was present in my last two cases of ruptured ulcer, described later, and I was able to point out the phenomenon to the surgeon who administered the anaesthetic in each instance. The site of constriction is shown in the illustration as a dotted line. It represents the level of the lowermost limits of the costal arch, and may be termed the "infracostal line." In passing, it may

be mentioned that this line is *below* the level of the transpyloric plane, while it is *above* the level of the umbilicus. The ring of constriction corresponds to that portion of the anterior abdominal wall supplied by the ninth intercostal nerve, and is certainly due to muscular contraction.

The muscles involved are the two recti abdominis in front, with the external obliques, the internal obliques, and the transversales laterally. The contraction takes place at a situation where the abdominal wall is unsupported by bone on its anterior and lateral aspects, but it should be emphasized that the constriction does not apply to the whole of the ilio-costal space but to its upper part only. All of the muscles just mentioned share in the general protective reflex rigidity, but the extra contraction—forming the ring of constriction—requires some explanation. It cannot be solely due to the accentuation of one of the upper lineae transversae of the recti muscles, because the constriction extends beyond their limits into either flank. Of the three lateral muscles the transversalis is the most capable of producing a constriction because it is able to exert a direct transverse pull, whereas the oblique muscles in contraction by themselves would tend to straighten out any such tendency to a constriction.

The ninth intercostal nerve, supplying its segment of the muscles of the upper part of the anterior abdominal wall

travels in an almost transverse direction after leaving the shelter of its intercostal space.

In addition to the vagi nerves, the stomach and duodenum gain a sympathetic nerve supply from branches originating from the fifth to the eleventh thoracic spinal nerves, through the greater and lesser splanchnics to the coeliac plexus; and Cunningham's *Textbook of Anatomy* (third edition, p. 704) states that sympathetic nerve fibres "transmit to the cerebro-spinal system afferent fibres from the viscera."

In view of these factors—muscular and nervous—it is reasonable to assume that the powerful stimulating impulses of origin, the results of the perforation, are conveyed by the sympathetic fibres to the coeliac plexus and from these to the spinal cord when the whole nervous system is probably involved. Afferent impulses cause the wide pupil dilatation seen in shock. They reach the vasomotor centre with a resulting splanchnic dilatation, and they stimulate the motor nerve cells in the cord so that there is general rigidity of the anterior abdominal wall muscles.

ILLUSTRATIVE CASES.

Case 1.

P. J. L., aged 35, was admitted to the Royal Naval Hospital Ship *Plassy* for acute abdominal pain. Eighteen hours previously he had sudden overwhelming pain in the upper abdomen which doubled him up. He sweated, vomited blood, and thought he was going to die. For many years he had had epigastric pain coming on a quarter of an hour after food; there were no interscapular radiations of the pain, and more food did not give ease. He had never had melaena, a cough, or increased pain on inspiration; flatus had been passed recently, and micturition was normal. Upon admission his facial expression was anxious, he was collapsed and cyanosed. The pulse-rate was 112 and weak, the respirations 20 per minute, temperature 100° F., and the tongue furred and moist. *There was a ring of constriction across the abdomen at the level of the lower margins of the ribs.* He had board-like rigidity of the whole belly wall, there was dullness in both flanks, and the liver dullness was normal. The heart and breath sounds, pupils, knee-jerks, testes, and hernial sites were normal. Rectal examination showed no abnormality. A diagnosis of ruptured pyloric ulcer was made. This was confirmed at operation, and the patient made a good recovery from it.

Case 2.

P. C., aged 25, was admitted to the R.N.H.S. *Plassy* suffering from acute general pain in the abdomen of four and a half hours' duration. The pain at onset was sudden and appalling, he shouted out, sweated, and vomited. For a considerable time previously he had suffered from epigastric pain after food, with pain between his shoulder blades; there was no history of haematemesis or melaena. He attributed his ailments to obstinate constipation. During my investigation of the case he was constantly screaming out with pain and disturbed the other patients. His pulse-rate was 60 per minute, temperature 98° F., respirations 30 per minute, and a normal tongue. Abdominal respiratory movements were absent, but a *transverse ring of constriction could be seen at the level of the lower margins of the costal arch.* There was general rigidity of the belly wall muscles, also general tenderness of the abdomen. The remainder of the routine examination was negative. Operation confirmed the diagnosis of a ruptured gastric ulcer, and he made a good recovery.

PRIMARY AND SECONDARY IMPETIGO IN SOLDIERS.

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DURING April, 1917, out of a total of 1,786 patients admitted with skin complaints into — General Hospital it was found that 1,411 suffered either from primary impetigo, or from impetigo grafted upon some other condition. This secondary form may be so severe as to mask the underlying causal condition, leading to errors both of diagnosis and treatment, whereby disease is spread and cure delayed. In this paper four types or classes will be described. Special attention is directed to the mode of distribution, since this alone is usually sufficient to guide the observer to a correct conclusion.

I. TRUE IMPETIGO CONTAGIOSA.

Contrary to what might be expected, this condition, so tediously common in civil practice, rarely occurs among the troops in France. As is well known the causal agent, a streptococcus, gains entrance through some slight

abrasion or cut; in consequence the disease affects mainly those regions accessible to inoculation—the face, hands, and arms. The earliest lesion, a delicate vesicle, is soon ruptured and replaced by a superficial crust, aptly described as “stuck on.” The strikingly superficial position of these crusts and their irregular pattern upon the face enable impetigo contagiosa to be distinguished from impetiginized seborrhoea, to which it bears a close resemblance.

Treatment.—Removal of crusts is an essential first step in the treatment of all “impetigos,” otherwise the remedial agents cannot come into contact with the diseased tissues. This may be done with forceps, or more efficiently by boric fomentations or boric starch poultices. If, before fomenting, the lesions are smeared with liquid paraffin better results will be obtained. The naked sores should then be anointed with zinc ointment containing 1 per cent. ammoniated mercury; should this prove irritating, Lassar’s paste may be employed instead, after washing with 1 in 1,000 perchloride lotion.

At times a rare form of impetigo contagiosa is met with in which the bullous phase persists throughout. The whole body becomes covered with blisters, small and large, and there may be constitutional symptoms. This condition is not pemphigus. If the blisters are opened, washed with 1 in 1,000 perchloride, and dusted with a powder of equal parts of starch and zinc oxide, to which is added 10 per cent. of boric acid, a cure is soon effected. Sheets and bed-clothing must of course be changed frequently to prevent the formation of new lesions by inoculation.

II. ECTHYMA.

Ecthyma is a deep or dermic form of impetigo contagiosa, and is most often seen on the legs and thighs. The fully developed lesion consists of a crust covering an ulcer full of matter. It is surrounded by an erythematous halo, the brightness of which indicates the active extension of the process; usually the marginal skin is undermined. This condition is induced by scratching to relieve itching caused by lice, or follows the friction and rubbing of garments soiled with mud or dirty water. Once started it spreads rapidly by autoinoculation. The sores can be distinguished from boils by the absence of a central hair follicle.

Treatment.—While the process is in a progression phase—as indicated by the brightness of the surrounding halo—obviously local antiseptic measures are useless, since neither liquid nor ointment can penetrate among the outlying cells where the streptococci are in active proliferation; their destruction is brought about by substances carried from within, and this is attained by frequent fomentations. To prevent infection the neighbouring skin should be washed over with 1 in 4,000 perchloride lotion before each fomentation. A preliminary removal of crusts and pus is, of course, essential. When the fading halo tells that active extension has ceased, antiseptics, such as half strength eusol, or 1 in 1,000 perchloride lotion, may be used. Sluggish sores can be painted with a solution of silver nitrate 2 per cent. in sweet spirits of nitre. In the last stages weak ammoniated mercury ointment or Lassar’s paste should be employed.

III. IMPETIGO COMPLICATING SEBORRHOEIC ECZEMA.

The seborrhoeic diathesis appears to exist among the troops in France to an abnormal degree. Its influence is felt in the treatment of many skin diseases, especially scabies. In its most simple form seborrhoea is seen on the scalp as dandruff, and over the presternal and interscapular regions either as greasy red scaly patches resembling ringworm, or as a scattered follicular eruption. This mild form, relatively common, is not often brought to the notice of the medical officer. When the disease attacks the hairy regions of the face and scalp, it may take on a new and confusing aspect. The seborrhoea becomes eczematized—a process indistinguishable from eczema being grafted upon the pre-existing dermatosis. Nor does this usually end the matter. So susceptible have the affected tissues now become to streptococcal invasion that this germ almost invariably gains a footing, and then impetiginization is added to eczematization. In consequence, an appearance closely mimicking impetigo contagiosa is established. From this it can usually be easily

distinguished—first, because the scabs are distributed over the hairy regions, the beard, moustache, and eyebrows; secondly, by noting that the crusts are firmly attached, and are not of the “stuck on” type; and thirdly, by discovery of other seborrhoeic lesions on the back and chest. The ears rarely escape if the head and face are severely affected, and the process often extends along the auditory meatus, setting up a purulent discharge. This combination—a discharging ear with impetiginized seborrhoea of the auricle—tempts the observer to diagnose middle ear disease with impetigo contagiosa; the history of the two conditions is quite different, the running ear of seborrhoea following, not preceding, the skin eruption.

It is unwise as a rule to dogmatize in medicine, but he who treats every “impetigo” above the neck amongst soldiers in France as if it were an impetiginized seborrhoea will rarely be wrong, and will never do harm.

One other point should be referred to. Ecthyma and impetiginized seborrhoea may coexist, since the healthy skin can easily become inoculated with streptococci from the infected seborrhoeic lesions.

Treatment.—As the condition is an eczema rather than an impetigo, preparations such as calamine liniment should be employed. The formula is as follows:

Calamine ...	...	...	...	gr. xx
Zinc oxide...	...	...	...	gr. xv
Lime water	...	...	...	3 ij
Olive oil ...	...	...	...	3 j.

To bring it into intimate contact with the diseased skin scabs must first be removed, and, after shaving or close clipping, soaked lint applied to face and scalp; all crevices in and behind the ears are packed with soaked cotton-wool. Such treatment is either continued until cure, or towards the final stages Lassar’s paste with 2 per cent. salicylic acid or ichthyol may be substituted. Should chronic fissures develop they may be painted with the silver nitrate solution already given. Running ears must be syringed frequently. Two complications often arise—boils and conjunctivitis. The former responds to fomentations and stock staphylococcal vaccines, the latter to frequent washing with boric lotion and eye drops of boric lotion containing 0.5 per cent. cocaine.

IV. IMPETIGO COMPLICATING SCABIES.

Uncomplicated scabies is seldom seen in France because the soldier rarely reports sick until his skin has become severely infected with pyogenic cocci; it is then easy to overlook the primary disease; for this reason men constantly arrive at base hospitals labelled I.C.T., eczema, boils, etc., who are the subjects of unrecognized itch. The distribution of the impetigo secondary to scabies is characteristic, the lesions being especially grouped over the lower buttocks, the elbows, and knees. Impetigo of the lower buttocks is invariably due to scabies, and in such cases a search will constantly reveal confirmatory lesions of the penis, wrists, or interdigits.

Treatment.—In infected scabies treatment is apt to be both long and tedious; medical officers should therefore aim at preventing this condition by constant inspection of the men under their care for the detection of the disease in its early stage. Even when secondary infection has taken place, it is essential in all but very exceptional cases to cure the itch by sulphur before attacking the secondary complications. Therefore treatment is started by a bath, three days’ sulphur ointment, and a change of garments. Thereafter the ecthyma is dealt with as already described.

When secondary infection has been severe, a certain degree of dermatitis is an almost invariable accompaniment. It is troublesome because with it is associated sensations of itching of greater or lesser severity, which may be incorrectly thought to indicate that the acari have not been all killed. The following plan will be found useful: During the day Lassar’s paste with ichthyol is rubbed over the affected skin, and at night calamine lotion is dabbed on it. It is perhaps unnecessary to insist that the ointment should never be applied to any lesion containing pus.

THE *Newspaper World* stated last week that 99 daily newspapers in this country and 615 weekly periodicals have now increased their prices.