CHAPTER 25

DYSPEPSIA

SOME surprise has been expressed at the importance of digestive diseases in the Services, but surprise is hardly justified in view of the increasing number of dyspepsias in the civil community before the war. Even before the 1914-1918 war, an experienced physician analysed the presenting symptoms of patients attending a large medical outdoor clinic and found that the predominant symptom was abdominal pain. In the last generation there has been a conspicuous increase in the number of young men with duodenal ulcer. In speculating as to the causes of this increase in the ulcer-type dyspepsias, physicians have blamed the altering pattern of life, particularly in relation to mental strain, changed habits of eating, different kinds of food, dietary deficiencies, dental inadequacy, and increased general consumption of alcohol and tobacco. No doubt greater accuracy of diagnosis has swelled the numbers too, but the increase in dyspepsias has been greater than the rise in the proven ulcers. Perforation of peptic ulcers is a more common emergency of recent years, and it was not uncommon during the war, especially at certain periods, and under certain conditions, for example, in civil communities exposed to frequent enemy attack.

It has been pointed out that tobacco became a compelling and almost universal addiction during the war years, and this has been cited as an important cause of dyspepsia in servicemen and others. Tobacco used in excess is generally regarded as an activator of active peptic ulceration, but it seems likely that heavy smoking and peptic ulcer are both associated with a certain personality pattern. Persons of this type are perhaps not likely to heed Jowett's injunction concerning smoking, "Do not set up for yourselves new necessities". It is conceivable that all the causes mentioned above may play some part in the production or maintenance of dyspepsia. If the manner of our life is, in part, responsible for increasing the burden on digestive function and in particular on the autonomic nervous mechanism involved, it is likely that the conditions of military service will not in any way lighten this burden, but rather add to it. It further seems likely that whether such a burden will be of significance or not depends largely on the mental make-up of the individual.

It is not easy to dogmatise about the importance of battle stress in producing dyspepsia. There are so many variables, such as the types and ages of men involved, the diet available to them, the conditions of daily living, climate and hardship, that parallels cannot be drawn. Stress as an added factor sometimes seemed to be significant: thus after the trying events of Greece and Crete digestive troubles were found to be more common in some units.

Doctors in their views on dyspepsia, perhaps do not always have the same viewpoint; some lay greater stress on the food the patient takes, and when he takes it; others are more concerned with the peripheral nervous

and secretory mechanisms of digestion, while others lay greater stress on considerations of life and its assault on the nervous system. Even by the most balanced observers bias is hard to avoid, and this reflects on statistics. This was evident in studying the administration of different service hospitals. In one, a relatively high proportion of patients classed as "functional dyspepsia" would be found, in another there would be a correspondingly high number of men classed as suffering from "anxiety neuroses, with digestive fixation". In the former all such patients were usually admitted to a "digestive" ward, in the latter this was largely avoided. It is probable, therefore, that the statistics are not trustworthy in this respect.

In the Middle East the rates per 1,000 for digestive diseases and, by comparison, for infectious and parasitic diseases were as follows:

	1940	1941	1942
Digestive . . .	196.87	192.80	144.98
Infectious and parasitic .	275.00	298.14	219.67

The percentages of men with digestive diseases among those returned to Australia unfit from the A.I.F. in the Middle East were as follows: 1940, 19.54 per cent; 1941, 12.68 per cent; and the first quarter of 1942, 14.66 per cent.

In convalescent depots the numbers of men recovering from dyspepsia were practically identical with those recovering from infectious diseases. In the Australian force in the United Kingdom, in 1940, the incidence of digestive diseases was relatively low, only 81.4 per 1,000.

Coming to the clinical aspects of digestive disease in the armed forces there are certain generalisations that may be made. Soon after the arrival of the 16th Brigade in Palestine the number of dyspeptics with a past history of indigestion was noted to be considerable. This history was all the more evident in the case of men who had a declared ulcer. The importance of this was recognised, and representations to Australia caused the inclusion of an enquiry concerning digestive disturbances in the *questionnaire* answered by all recruits. The discovery of an abdominal scar led to enquiries also, and as a general principle men with a history of operation for peptic ulcer were not accepted for active service. Had this been more rigorously followed, it would have been preferable, as the very instances in which exception is made are often those of men whose responsible jobs are provocative of recurrence. A man with an active ulcer is often a problem behind the desk of a civil administrator, and this problem is likely to be accentuated by wartime responsibilities. Yet there were specialised duties that could be discharged well by men with an ulcer history. Numbers of men in the air force, for example, could carry out technical work in sheltered occupations as well as in civil life, though the percentage of discharges for digestive diseases from this service reached as high as 17. Though flying stress often caused recrudescence of symptoms, it did not seem to bring about acute complications such as haemorrhage or rupture.

Soldiers with an "ulcer type" of dyspepsia often had long histories of digestive trouble, with a characteristic record of exacerbations and remissions. Those with dyspepsias conforming less closely to the conventional ulcer pattern, also often had a significant history. Usually they complained that they "could not eat the army food", and often stated that they had been used to a special diet in their own homes. It would seem that a *questionnaire* for recruits' wives or other female relations would reveal some interesting information. It is probable in any case that men whose patterns of life contain a component of a special diet, whether for an organic or non-organic dyspepsia, have also a special personality pattern, which is often not very adaptable to a new environment, particularly that of the curiously restricted communal life of the Services.

One generalisation which caused some surprise at first, was that a high proportion of the dyspepsias seen were due to gastric or duodenal ulcer. This is supported apparently by the findings of all armies on all fronts. Without being able to present accurate figures, radiologists with a wide experience of pre-war hospital work thought that a higher percentage of ulcers was found in the X-ray departments of the services in the field, than in those of civil hospitals. This, if true, might be due to the higher degree of clinical selection of patients sent for X-ray examination of the digestive tract in the armed forces than in civilian out-patient clinics, where patients may attend largely for their own personal satisfaction. The acute accidents, perforation and haemorrhage, were extremely uncommon in the Australian Middle East force.

With regard to complaints about food, it must be admitted that service dietaries often looked better on paper than the prepared food looked and tasted. Greasiness of food was often complained of, and not always unjustly. Inspections of food at meal parades were not always critically carried out. The development of the Australian Army Catering Corps at a later date played a very important part in improving the quality and palatability of food as presented to the soldier.

One clinical feature of the ulcer dyspepsias in the Middle East was the prevalence of a complaint of vomiting. This was not always proved by observation, but such a history was common. Classical time relation between eating and the onset of pain was not always seen, though this but conforms to civil experience. It may be remarked that abdominal pain associated with indigestion does not arise only from the stomach and duodenum. Convincingly characteristic histories were sometimes given by men who gave no other grounds for a diagnosis of ulcer. In a certain limited class of men there was evidence that the appropriate history was used in an attempt to outwit medical boards. Indeed there is evidence that the dissemination of knowledge in convalescent depots was well organised in these circles. Loss of weight was also a common feature, due apparently to the limitation of food intake by the patients themselves as a form of self-treatment. Monotony of diet was also a cause, as the "light" diet or "ulcer" diet of most hospitals has little variation. Attempts were made to overcome the meaningless prejudice against all but "white" meats,

but even when a wider range of suitable food was introduced the patients were sometimes reluctant to take an increased diet to their own advantage. The diagnosis of "gastritis" or "duodenitis" was sometimes made, though the basis was not always convincing. The opportunities for gastroscopic investigation were naturally extremely limited.

Duodenitis was a diagnosis based on radiological findings. These were chiefly a diffused irregularity of the rugae, and spasm without a focal lesion.

In the early days of the A.I.F. in Palestine, supplies of some drugs were restricted: one of these was barium sulphate. This led to strict rationing of opaque meals, and cholecystograms were also restricted. A limited supply of films during practically the whole of the war period laid greater emphasis on the accuracy of fluoroscopy, which was in turn limited to some extent by the ordinary safety precautions against radiation. Stricter scrutiny of patients submitted to X-ray examination was therefore necessary. This insistence on thorough clinical methods was good in many ways and was a check on the referring of patients for X-ray examination without sound reasons. In some patients the carrying out of a barium meal had a valuable therapeutic effect, but the propriety of so using this method of investigation is open to grave abuse, as well as being very unfair to hard worked radiologists who are exposed to radiation hazards. Tests for occult blood and fractional gastric analyses perhaps assumed a position of rather higher importance as confirmatory methods, though the findings of the radiologists if "positive" were still a pivotal point of a diagnosis. This was particularly so when a medical board had to arrive at a decision about a man's fitness to perform certain tasks, or indeed any tasks in an armed force.

The preponderant type of established ulcer was duodenal. The recorded figures show a ratio of at least 5 duodenal ulcers for each gastric ulcer, though their diagnostic accuracy cannot be guaranteed, and they are not fully representative. Contrasting with these were figures published by Cleland in 1942 relating to civil experience. Out of 5,070 autopsies in South Australia he recorded 110 gastric ulcers and 70 duodenal ulcers. Gastric ulcer was four times as common in men as in women, and duodenal seven times.

When the A.I.F. returned to Australia and the A.M.F. were dispersed over wide areas the problems of digestive disease increased, both in base and field hospitals and in forward areas. The patients with persistent symptoms eventually reached base areas and were studied there in large numbers. Once again there was a danger of a spate of men pouring into hospital for full investigations which were sometimes justified by the history, and sometimes not.

Technical Instruction, No. 9, was issued dealing with the care of the dyspeptic soldier (see appendix). In spite of this, many men were seen in base hospitals in every capital city with unduly magnified symptoms. Even when a diagnosis was made at the base the disposal of the man was often difficult, particularly in one type of dyspepsia common about

1943-1944, the psychogenic type, a neurosis with somatic fixation. These men were best dealt with in ordinary medical wards. Unfortunately some of them even when returned to "B" class work reappeared in hospitals, where investigations were often made *de novo*. In one convalescent depot in 1942, out of 43 men with dyspepsia, 11 were found to have had multiple investigations. The immediate military prognosis was not very favourable for such men. Though in this early period of the Japanese war men were regraded to "B" class and given appropriate work in a base area wherever possible, many of them were not very useful, and eventually were discharged.

There was no doubt about the importance of emotional factors in the majority of cases of dyspepsia. Whether these factors were induced by the mental "let-down" of boredom and dull routine training, or by overwork and loss of sleep, or by combat stress, or non-adaptation to the conditions of service, or domestic or financial anxieties or repressed resentment, they frequently played a part not only in causing the indigestion but also in perpetuating it.

In 1943 Lieut-Colonel H. R. Love analysed 358 patients in Heidelberg Military Hospital. Out of 15,380 patients admitted 908 had dyspepsia. He found that 68 per cent had a history of digestive symptoms extending back before their enlistment. The commonest complaint was abdominal pain, which was present in 90 per cent; 20 per cent had vomiting, 3.6 per cent had heartburn, and 53 per cent had lost weight. The pain was continuous and usually most troublesome after meals or else not specially related to food. A clinical history was taken of all these patients, a special *pro forma* being used; and fractional test meals, tests for occult blood in the faeces, and barium meals were carried out and recorded. No organic abnormalities were discovered radiologically in 66 per cent. The percentage of ulcers found were as follows: gastric ulcer 4.7 per cent, duodenal ulcer active 7.2 per cent, healed 2.1 per cent, and irritable duodenum 8.5 per cent.

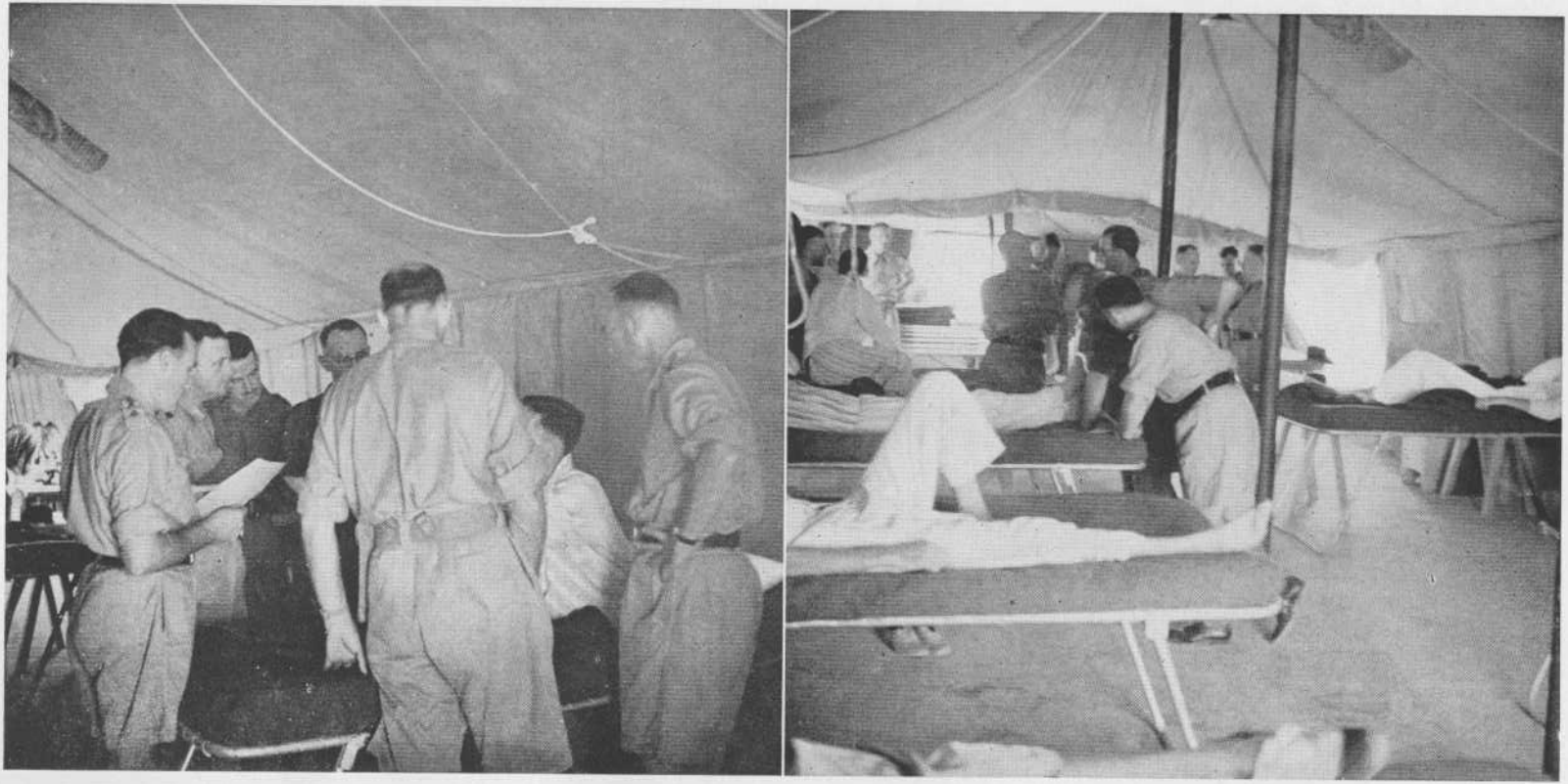
Love concluded that the fundamental basis of most dyspepsia in this series was psychic, but not "neurotic" according to the usual connotation of this term. Perhaps this accounts for the uneasiness felt by some medical officers in handling this variety of psychosomatic disease, seeking a mean between the extremes of fearing to "miss" an ulcer or dismissing the man as a "poor type".

The experiences of the medical services of the 8th Division, A.I.F., were of particular interest. They are dealt with in some detail because of the unusual circumstances attending all diagnosis and treatment. In Malaya during the early training of the 8th Division the problems of digestive disease corresponded closely with those of the A.I.F. in the Middle East. The same frequency of dyspepsia was observed, and the same difficulties were found in disposal of these men, always more troublesome in an oversea force than one training at home. During 1941, the great majority of dyspeptics complained of symptoms which had been in existence before their enlistment. The impression gained from the physicians in Malaya was

Likely breeding place for sandflies—Palestine.

(Australian War Memorial)

Western Desert underground C.C.S.: vectors of relapsing and sandfly fevers were found in parts of the desert.



Clinical meeting, Middle East, 1940.

that the proportion of organic to inorganic dyspepsias was low. No instance of perforation was seen in the force during 1941, and bleeding occurred in only three patients. The only patient requiring surgery was a man with carcinoma of the stomach. The majority of dyspepsias were believed to be psychogenic in origin, a belief supported by the common finding of a history of previous mental or nervous instability. In one series only 25 out of 177 barium meal examinations revealed an ulcer. From February 1941 to February 1942 of 85 patients boarded for dyspepsia 31 had peptic ulcer and 42 nervous dyspepsia. Up to this point, full diagnostic facilities were available, but with the capitulation of the force in Malaya the conditions were different in every way.

Immediately after the Japanese occupation began a series of men was seen with ruptured ulcer. Five such emergencies were seen in the Combined General Hospital on Singapore Island in a short space of time, but during succeeding months this "accident" was very rare. W. A. Bye in a special report on the work in the prison camp at Changi points out that X-ray studies were greatly limited, and after September 1942 no films were available. Barium was limited in supply, but till late in 1944 screening was possible. Of forty selected patients eighteen had active ulceration. Tests for occult blood and fractional test meals were possible, with the use of ground rice, till later the reagents were exhausted. A reasonable bland diet was devised for dyspeptics; its basis was milled rice, with additions from limited supplies of reserve rations, and from Red Cross stores that arrived in September 1942. Condensed milk, cereals and eggs were available during 1942, but in 1943 the ulcer diet deteriorated greatly in quality. Necessity demanded the use of unsuitable food in order to yield enough calories and vitamins. The fish and vegetables available were tough, but later a suspension of soya bean was added. At the end of 1943, many sick men returned from the Thailand camps, and all eggs and milk were perforce diverted to them. This left for the dyspeptics a monotonous diet of pap with limited flavouring, rather unpalatable supplements of vegetable oil and a small amount of fresh meat supplied by the Japanese in 1944. During 1944 calorific necessity compelled men with ulcers to eat black beans and milled maize as in the standard ration. Attempts were made to give these men a reasonably suitable diet in their own units, but this was too often impossible. The monotony of the food made the use of vivid condiments necessary, and this, added to the tough nature of the food, induced relapses of peptic ulcers to such an extent that some patients spent almost the whole of their term as prisoners of war in hospital. It was most important to ensure that only men with organic dyspepsia should be held in hospital, lest the numbers of gastric neuroses should grow unduly. Great care was exercised in the diagnosis by clinical and accessory means. As time went on occasional surgical complications occurred, and at Changi by the middle of 1943 pyloric obstruction had been recognised in three patients who were operated on with satisfactory results. By this time it was evident that the practical certainty of relieving most ulcer patients of their symptoms by medical means was an unattain-

able goal under prevailing conditions. Therefore from August 1943 to August 1944 nineteen men were submitted to gastro-enterostomy or partial gastrectomy with three deaths and excellent results in the remainder.

Mention has been made of a number of men who had perforation of an ulcer in the early period of captivity. Up to May 1943 eight men had this complication in Changi, but none thereafter. All recovered after immediate operation. Haematemesis occurred in eight men also. In a series of 44 men seen in 1942-1944 who had proven ulcers, 26 appeared to have had their first symptoms arise in Malaya, the others had a previous history of dyspepsia. Proof of ulceration consisted of operation findings, the demonstration of an ulcer by X-ray examination and haematemesis. It seems probable on clinical grounds that many more men had ulcers, but proof was unobtainable. On clinical grounds, Glyn White reported that in Changi gaol in 1944, a decided increase took place in peptic ulcers. He and Cotter Harvey from the Combined General Hospital, also found that an adequate diet was hard to obtain; there were deficiencies in fats and vitamin *C*, and the chief source of fat, palm oil, was distasteful to the patients. An attempt was made to prepare a purified oil. Drugs were scarce, and magnesium hydrate derived from sea water in the camp soap factory was used as an alkali in treatment. This gave some relief, but in general, the response of patients to treatment was disappointing. Anorexia and vomiting were noted to be common, perhaps related in some degree to nutritional deficiencies. The combined hospital by the end of 1943 was holding many men with peptic ulcer. When liberation came in 1945 it was felt that many of these men had reached a condition irreversible under existing environment, and only relief from the hardships they endured saved them from complete invalidism at the least. At the other end of the line of working camps, long after the completion of the Burma-Thailand railway, the large hospital at Nakom Paton was set up in 1944 by the Japanese and here Major Fisher and other physicians were able to gather interesting data and make an enlightening record of three and a half years' work.

No radiographic diagnosis was possible there, but organic lesions were not diagnosed except on sound clinical grounds. Fractional test meals were carried out on all the patients needing investigation: hyperchlorhydria was invariably found in patients with a clinical diagnosis of ulcer. At the end of the war, 70 patients with ulcer were in hospital: most of these had come from Burma. Their ages ranged from 25 to 45 years; over half of them had a pre-enlistment history of dyspepsia, and a number of these had a previous ulcer proven by X-ray examination or laparotomy. Their treatment caused great anxiety, for suitable diet and drugs were unobtainable, and they suffered considerable pain. Rice pap with stew if this could be taken was the basis of the diet; milk when obtainable was added, even half a pint daily was a help. Tapioca gruel, sieved vegetables, eggs and occasionally fruit were given when available. Meals were accurately timed, and frequent feedings arranged. Alkalies were not always obtainable, but it

was striking how bicarbonate of soda, now largely discredited as an antacid, gave great relief when supplies arrived.

The question of surgery caused some anxiety and, having regard for the extreme difficulties of operative work mostly carried out with home-made material, surgery was restricted to emergencies. Only two patients died from peptic ulcer during the whole period, one from perforation and the other from uncontrollable haemorrhage. Such operations as were done were not satisfactory, as adhesions and obstructive sequels occurred, but this was not surprising in view of the local conditions and the long deterioration of the patients in the Japanese jungle camps. Operation revealed how formidable were the ulcers in these patients. Some of the duodenal ulcers were two or three inches in diameter, anchored by adhesions to surrounding tissues so friable and oedematous that handling was virtually impossible.

Many other patients were seen with dyspepsia considered not to be due to ulcer, and numbers of these were found to be achlorhydric. The administration of dilute acid gave them some relief. The acid used thus in treatment was obtained either from scanty stocks or from hyperchlorhydric patients undergoing test meal examination. The excess hydrochloric acid thus obtained from ulcer patients was also occasionally used as a flux for soldering.

The great help given by Red Cross food supplies was welcomed in all hospitals when and where the Japanese permitted a distribution.

The treatment of prisoners of war in Italy and Germany who had peptic ulcers, gave rise to considerable difficulty. White bread was usually unobtainable and these men had trouble with the coarse black bread. In fact in some camps a very high proportion of the men complained of indigestion from the bread. As in other prison camps patients with tuberculosis and severe dyspepsias were, of course, given priority for necessary foods when these were available from Red Cross parcels.

Review of the whole war shows that digestive disease was of great importance in all armed forces. The harsh experiences of the men held captive by the Japanese illustrate how an occasional or remittent lesion like a peptic ulcer occurring under reasonable conditions becomes a dangerous, permanent and progressive incubus when living is reduced to its lowest terms. At the other end of the scale it is seen how peptic ulcer recurs under the stimulus of conditions of service, less flexible than those of ordinary life, particularly to the sensitive or unadaptable types. Most frequent of all the dyspepsias of service life are those which are probably also the commonest in civil life, those of psychological origin. How many of these may cross the ill-defined "organic" border and show frank ulceration cannot even be guessed. It cannot be doubted that the 1939-1945 war brought up digestive disease as a difficult problem. In dealing with it in civil life some attempt can be made to resolve those factors concerned with life and its asperities; in military life this is difficult. Its prophylaxis cannot be dealt with here, for in addition to the physical and chemical questions involved there is the basic difficulty of fitting human beings

more aptly into a world which they are striving daily to make more complicated.

APPENDIX

Technical Instruction No. 9

1. The present method of dealing with soldiers who complain of digestive upsets is failing in several aspects.

(a) Men are remaining in hospital too long with resultant waste of beds.

(b) The long period of careful dieting and minute investigation to which they are subjected tends to set up a neurosis by encouraging them to believe that their symptoms must have an organic basis. (This view is sometimes implanted by the R.M.O. "The doctor thought I had an ulcer and sent me to hospital but they could not find it.")

(c) The hospitalisation of such patients tends to increase the total number of digestive complaints; neurosis is notoriously infectious.

2. On the other hand men with definite peptic ulcers are rarely fit for military service. As a rule such ulcers will be found to have been present before enlistment but the history was concealed. These men should be transferred at once to a Base Hospital with a view to early discharge.

3. In 17 per cent of cases investigated at the 115th G.H., definite radiological evidence of ulcer was found.

4. Dyspepsia has proved to be so important a military medical problem that it is essential for all medical officers engaged in clinical work to assume a correct degree of responsibility in the recognition and disposal of the various types of soldiers complaining of digestive symptoms. These men fall into several groups:

(a) Those whose history and observed condition point to gastric or duodenal ulcer, or other organic abdominal disease, such as chronic gastritis, hepatic cirrhosis, cholecystitis, etc.

(b) Those who are suffering from other systemic disease such as pulmonary tuberculosis.

(c) Those who have a true disturbance of digestive function without evidence of organic disease; important factors here are type and nature of food available, dental equipment, etc.

(d) Those whose trouble is essentially psychological.

5. It is most important that an attempt should be made as early as possible in the medical history of every man so complaining to form a tentative opinion as to the cause of the symptoms.

6. The handling of dyspeptics in the field.—Many of these cases are likely to be seen in training units. Here, and wherever service conditions permit, an effort must be made to make a tentative diagnosis, and causative factors, such as improperly prepared food, tobacco and alcohol should be recognised. The soldier's dental state must be noted in every case and steps be taken to institute or accelerate necessary treatment. It is emphasised that the extraction of teeth often accentuates, temporarily at least, the dyspepsia. It is well within the province of the R.M.O. in certain of the cases encountered to attempt to adjust such faulty conditions as may give rise to dyspeptic symptoms, including psychological factors, such as anxiety. The routine handling of men complaining of indigestion merely by parading them to receive doses of alkalies represents a failure to deal with the situation.

The M.O. must have adequate reasons for referring dyspeptics for consultation or investigation in hospital, and if he refers such cases he must forward an adequate history with the man. If important evidence is available, e.g., proof of vomiting, haematemesis, melaena, etc., it must be stated. In these cases a field diagnosis of indigestion is sufficient. It is most undesirable that a diagnosis of any organic disease be entered on the field medical card or that the idea of organic disease should in any way be suggested to the man. It is equally undesirable that the M.O. should inform any man that he is being sent to hospital for the purpose

of undergoing some specific investigation such as X-ray, since the final judgment as to such procedures rests with the specialists in hospitals.

7. Handling of dyspeptics in hospitals not equipped for full investigation.—Some assessment of each man's condition must be made as soon as possible. If it is considered that there is a good chance of returning the soldier to work after a short period of treatment he should be retained for such treatment and such limited investigation as may be possible or desirable. If it appears that further investigation and a longer period of treatment is necessary he must be transferred to a more fully equipped hospital as soon as practicable. In this case an adequate summary of history and progress must be sent with the man.

8. Handling of dyspeptics in fully equipped hospitals. Strict economy in investigation will be observed. Dietary systems should not be unduly elaborate. It is particularly desirable that men who are likely to return to duty should be given as full and varied a diet as is compatible with their condition, since it is easy to produce or confirm a dietetic neurosis in these men, even by the routine use of the so-called "light" diet, with its traditional obsession of "white" meat. Adequate discipline of these patients must be observed.

Where it is established that organic disease exists, and it is considered that for this or other reasons the soldier's disability renders him unfit for military service, medical boarding must be instituted as soon as his condition is reasonably stabilised.

(a) Dyspeptic ward in hospitals.

While it is advantageous to group cases of organic digestive disorders together for convenience of handling and dieting, the indiscriminate segregation in one ward of all patients admitted for investigation of dyspepsia is not to be permitted. It can do nothing but harm to many of these patients to confirm a digestive "fixation" which is often the result of some psychological stress.

9. Medical boarding of dyspeptic patients.—The following information should be available for the information of the Board:

(a) Report from R.M.O. containing original reasons why the patient was submitted for investigation, and also observed findings, etc.
(b) Record of the man's progress in hospital, with special reference to:
    (i) Presence or absence of symptoms or complaints.
    (ii) Physical findings.
    (iii) Substantiation of such signs as vomiting, diarrhoea, haematemesis, melaena, anorexia, etc.
    (iv) Results of special investigation, X-ray, test meal, etc.
    (v) Evidence of breaches of discipline, if any, e.g., excessive smoking, contrary to instructions, bouts of alcoholism, etc.
(c) A considered opinion of the man's condition written on the hospital record and signed by a responsible officer.

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