and submucosa of the caecum showed diffuse and heavy infiltration with eosinophil leucocytes. Post-operative progress was satisfactory, and one year later she was very well, although the eczema was still present.

Discussion

The outstanding symptom of intussusception of the appendix is intermittent abdominal pain, often accompanied by nausea and vomiting, and the stools are usually normal (McSwain, 1941). Many symptoms have been attributed to gastro-intestinal allergy, but intermittent abdominal pain and vomiting are those most commonly mentioned. Blood in the stools is often described as a feature of gastro-intestinal allergy, especially in infants, while it is usually scanty or absent in chronic intussusception (Gaymer Jones, 1924). The difficulties of proving that gastro-intestinal symptoms are allergic have been discussed by Ingelfinger, Lowell, and Franklin (1949), who concluded that absolute confirmation is virtually impossible. They considered such a diagnosis reasonable "if gastro-intestinal symptoms invariably follow contact with a normally inactive substance, and if other causes such as psychic effects and mechanical irritation are excluded." The history of sensitivity to egg of the second patient, and the vomiting and urticaria produced by its administration, favoured the diagnosis of gastro-intestinal allergy, and it seemed reasonable, in the absence of other demonstrable cause, to ascribe the abdominal pain and blood in the stools to allergy as well. Beaven (1929) reported a somewhat similar case, his patient being a girl of 3 years who had florid eczema, and who developed urticaria if she ate eggs. The child had had peri-umbilical pain for one month before laparotomy was carried out. In this child, however, an intussusception was found involving a Meckel diverticulum.

In the present Case 1 there was less justification for attributing the symptoms to allergy, but the history of eczema, the absence of abnormal signs in the abdomen, and the duration of symptoms were misleading. The initial diagnosis was not sustained after admission and the true cause became apparent when the abdominal mass was felt.

Intussusception of the appendix was first recorded in a boy aged 7 (McKidd, 1859), and the majority of cases since reported have occurred in the first decade of life (Forshall, 1953). The condition is usually chronic, the average duration of symptoms before operation being eight months in the 77 cases reviewed by McSwain (1941). Although all cases may not arise in the same way, it is thought that the condition is usually due to peristaltic contractions of the appendix, initiated by attempts to expel a foreign body or by a local thickening of the appendix itself (Fraser, 1943).

It seems possible that in the present cases increased peristalsis resulting from allergic reactions facilitated the occurrence of intussusception, although the eosinophilia in the caecal wall in the second case cannot be adduced as evidence, because the significance of such infiltration is not clearly understood. Moreover, since neither McSwain (1941) nor Fraser (1943) mentions allergy in reviewing the literature on intussusception of the appendix, it appears unlikely to be a common cause, and the association may have been fortuitous.

Summary

Two cases of chronic intussusception of the appendix in young children are reported.

The symptoms were at first attributed to allergic reactions because of a history of infantile eczema in the first child and the presence of infantile eczema and gastro-intestinal allergy in the second.

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SURGERY IN OCTOGENARIANS

BY

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The problems caused by lesions in aged patients which constitute either an immediate or a delayed threat to life require careful consideration if an adequate solution of them is to be found. It is recognized that the number of these patients in this country is gradually increasing, and these matters will assume greater proportions in the years to come. A study of a personal series of 34 octogenarians who underwent surgical operation demonstrates that much can be done to help these aged patients even though they are afflicted with the worst forms of malignant disease. The patients were divided into two groups: with malignant and with non-malignant lesions. Their details are set out in Tables I and II.

There were 24 patients with malignant disease; for the majority a major operation was required, and four died. The follow-up of the survivors is shown and six patients were still alive up to twenty-nine months after the operation. Three patients died of non-malignant causes 3 years, 4½ years, and 4 years 5 months later. Of those who died of cancer four lived for a minimum period of two years.

Distribution and Management of the Lesions

In 15 patients a carcinoma of the alimentary tract was present, and in 9 it was situated in the colon or rectum. One patient suddenly developed a perforation of the pelvic colon proximal to an annular constricting carcinoma. Another suffered from complete intestinal occlusion caused by carcinoma of the pelvic colon.

For an aged patient with an obstructing carcinoma of the transverse or pelvic colon Paul's operation is a satisfactory procedure, provided any involved regional lymph nodes can be removed at the same time. When the affected loop of bowel cannot be exteriorized—for example, in the lower part of the pelvic colon, or at the recto-sigmoid junction—Hartman's operation is useful. For non-obstructing lesions of the transverse or distal colon a partial colectomy with an end-to-end anastomosis is usually radical enough rather than a more extensive left hemicolectomy. When the carcinoma affects the right half of the colon a right hemicolectomy in one stage is advisable if there is no obstruction.

In one patient a large pelvic abscess complicated a carcinoma of the pelvic colon and caused severe toxæmia. A series of staged operations were performed, including drainage of the abscess, the institution of a defunctioning transverse colostomy, partial colectomy, and closure of the colostomy later. The timing of these staged operations is important, so that the patient's general condition is at its optimum when the next stage is performed. By this means many aged patients, even when seriously ill, can be brought through safely. It is worth noting that a palliative colostomy for a carcinoma of the rectum in two patients was followed by survival periods of 2½ and 3½ years. Another patient lived 4½ years after a perineal excision of the

rectum and died of another cause at the age of 87. In some aged patients the application of coagulation diathermy to an obstructing carcinoma of the rectum is a useful method of treatment; one patient lived 2 1/12 years.

TABLE I.—*Octogenarians with Malignant Lesions Treated Surgically*

Age of Patient	Disease	Operation	Immediate Result	Late Result
85	Carcinoma rectum	Left inguinal colostomy	Recovered	Died 2 1/2 years later
88	" "	" "	"	Died 3 1/2 years later
83	" "	Left inguinal colostomy and perineal excision of re-ctum	"	Died 4 1/2 years later of another cause
90	" "	Diathermy to growth	"	Died 2 1/12 years later
83	Carcinoma colon, perforated	Partial colectomy; later prostatectomy	"	Died 1 year after first operation
83	Enlarged prostate; retention of urine			
83	Carcinoma colon—complete intestinal occlusion	Partial colectomy, Paul's operation	"	Alive 2 years later
82	Carcinoma pelvic colon	Partial colectomy, Hartman's operation	Died	—
81	Carcinoma pelvic colon with pelvic abscess	Drainage of abscess, defunctioning transverse colostomy, partial colectomy, closure of colostomy	Recovered	Alive 9 months later
86	Carcinoma transverse colon	Partial colectomy	"	Alive 1 year later
81	Carcinoma caecum	Right hemicolectomy	"	Alive 9 months later
80	" stomach	Subtotal gastrectomy	"	Died 7 months later
80	" "	Gastro-jejuno-stomy	"	Died 8 months later
81	Carcinoma oesophagus	Partial oesophago-gastrectomy	Died 7 weeks after operation	—
80	" "	" "	Recovered	Died 22 mths later
81	Sarcoma breast	Irradiation and radical mastectomy	"	Died 3 months later
82	Carcinoma breast	Irradiation and mastectomy	"	Died some months later
80	" "	" "	"	Died 3 years later
81	Carcinoma tongue (recurrent)	Partial glossectomy	"	Alive 7 months later
89	Carcinoma floor of mouth and mandible	Partial excision of floor of mouth and mandible. Partial block dissection of neck	"	Alive 2 5/12 years later
82	Carcinoma prostate. Diabetes mellitus	Suprapubic cystostomy	Died	—
87	Carcinoma pinna	Excision	Recovered	Died 3 years later of another cause
81	Rodent ulcer of face	"	"	Lost sight of later
82	Rodent ulcer of orbit	Exenteration of orbit	"	Died 4 5/12 years later of another cause
83	Vesical calculus and carcinoma of prostate with retention of urine	Lithotripsy and transurethral resection of prostate	Died	—

TABLE II.—*Octogenarians with Non-malignant Lesions Treated Surgically*

Age of Patient	Disease	Operation	Immediate Result
86	Rectal prolapse	Thiersch's operation	Recovered
83	" "	" "	"
83	Enlarged prostate	Prostatectomy	"
84	" "	" "	"
80	Crohn's disease of ileum	Enterointerostomy	"
80	Chronic cholecystitis	Cholecystectomy	"
85	Strangulated femoral hernia	Herniotomy	"
81	Ulcerated angioma of breast	Mastectomy	"
80	Senile tuberculosis of shoulder-joint	Sequestrectomy	"
84	Necrotic ulcer of pinna	Excision of pinna	"

The re-establishment of normal micturition in aged patients who have undergone an operation for carcinoma of the pelvic colon or rectum is often a difficult problem to solve. In males this is often caused by a benign enlargement of the prostate, and surgical treatment is necessary. When the prostate is small and fibrous a transurethral resection is satisfactory, but if the gland is large and fleshy it is probably better to enucleate it, provided the patient will stand the operation. Retention of urine in females can be very troublesome, and regular catheterization is required until normal micturition is re-established. This was necessary for several weeks in the case of the patient with the pelvic abscess complicating a carcinoma of the pelvic colon.

Two patients with a carcinoma of the oesophagus underwent a partial oesophago-gastrectomy; one died in hospital seven weeks later, the other lived for twenty-two months. The problems of each patient with a carcinoma of the oesophagus must be considered carefully, and if possible normal deglutition should be restored. When radical surgical treatment is contraindicated, the insertion of a Souttar tube or a course of high-voltage x-radiation often helps. A palliative gastrostomy is an unsatisfactory procedure.

One patient with a recurrent carcinoma of the tongue had a partial glossectomy and was well seven months later; the original lesion had been treated by a partial glossectomy and block dissection of the neck seven years previously. Another patient had a large carcinoma involving the floor of the mouth, mandible, and regional lymph nodes, and complete surgical excision gave a good result; the patient was well 29 months later. In these cases no attempt is made to reconstruct the mandible, since it is better to accept the deformity rather than submit the patient to a further operation and thus prolong his stay in hospital.

Ten patients with non-malignant lesions underwent operations, and all recovered (Table II).

Rectal prolapse is frequent in aged patients, and causes much suffering. Thiersch's operation is valuable because it is simple and usually provides complete control of the prolapse. For example, the patient who was aged 86 when operated on was at the time of writing 90 and never ceased to be grateful. In some patients the silver wire breaks after a time, but it can be easily removed and a new one inserted. Prostatic obstruction is another common condition in aged patients; each must be carefully considered and the appropriate treatment carried out. Two patients underwent prostatectomy with uneventful recovery.

General Considerations Regarding Surgery in the Aged

The health of these patients varies greatly, and it is necessary to assess their biological rather than their chronological years. Some tissues age more quickly than others, and the processes of repair may be retarded considerably in certain parts of the body. Repair is, of course, slower and less complete in old than it is in young tissues, and this fact should be remembered in this branch of surgery. Degenerative changes in vital organs are frequent and cause complications after operations: the most serious and frequent are those of the cardiovascular and renal systems. As a principle it is advisable to perform the simplest operation designed to cure the particular condition causing symptoms. In aged patients nutritional defects are common owing to an inadequate dietary intake, errors in food assimilation, derangement of water and electrolyte balance, and vitamin lack. These factors combine to interfere with wound-healing, lower the resistance of tissues to infection, and generally decrease the patient's power to withstand a major surgical operation.

It is advantageous to have a clear picture of the changes often present in many organs in aged patients, and reference is made to the work of Howell and Piggot (1951) regarding the morbid anatomy of various systems of the body. Important findings included the following: considerable atheroma was present in the aorta in 68% of patients, in the coronary arteries in 36%, and in the cerebral arteries

in 25%. Changes in the heart were patchy myocardial fibrosis in 44%, old coronary infarcts in 12%, fatty myocardial changes in 12%, and brown atrophy in 20%. Amongst the changes in the respiratory system were atrophic emphysema in 64%, hypertrophic emphysema in 28%, pulmonary oedema in 68%, bronchopneumonia in 32%, pleural effusion in 12%, and chronic bronchitis in 32%. Normal kidneys were found in only 12% of patients; the pathological changes in others included coarse scarring, granular surface, narrow cortex, thickened vessels, and excess fat.

The common post-operative complications according to their frequency and potential threat to the patient's life are the following. Bronchopneumonia is frequent and serious and often diffuse, with few demonstrable chest signs. Thus cough is slight but there is fever, and radiological changes in the chest are common. Cardiac complications are frequent and include congestive heart failure, coronary occlusion, and various arrhythmias. Pulmonary oedema is a frequent accompaniment of heart complications. Peritonitis is an important complication of various intra-abdominal lesions and operations; this is not tolerated well by aged patients. Attention is called to the frequency of infections in the urinary system which may be serious, and therefore early recognition and treatment is essential. Post-operative thrombosis and embolism often occur, and fatal embolism may be an accompaniment of impairment of the heart's action. Mental disorientation is worthy of special mention; the strength of the patient's mentality to withstand a major operation must always be assessed beforehand.

Special Points Regarding Treatment

Provided intelligent management is instituted many aged patients are brought safely through major surgical operations. Obviously emergency surgery is more risky than elective surgery, and according to Carp (1951) the former carries a mortality rate about two and a quarter times greater than for the latter. An adequate time is allotted for pre-operative treatment when elective surgery is contemplated, and nutritional defects are rectified as much as possible by routine methods. Oral feeding is preferable to other routes whenever this can be done, and a high calorie diet rich in vitamins is given. Any disturbance in the water and electrolyte balance is rectified, and when parenteral fluids are necessary they are selected carefully and administered according to the patient's exact requirements, controlled by laboratory investigations. Physiotherapy is given routinely, and the importance of the correct psychological approach is mentioned because aged patients require tactful and kindly handling in an optimistic atmosphere.

During the Operation.—Attention is given to the usual details of operative technique. Exaggerated positions on the table and rapid changes in the position of the patient are avoided. Any undue exposure of tissues is eliminated and careful haemostasis is essential. The circulatory system must not be overloaded with intravenous fluids, including blood, and the amount given of the latter is assessed by measuring the blood loss during the operation.

Anaesthesia

Premedication is minimal in amount and controlled carefully, because respiratory depression is easily induced. Therefore small doses of "omnupon," $\frac{1}{4}$ to $\frac{1}{2}$ gr. (10 to 20 mg.), or pethidine, 100 mg. or less, are given; the exact dose chosen is related to the body weight, general condition, and the results of the liver- and renal-function tests. Anaesthetic induction is smooth and adequate oxygenation is essential. It is necessary to avoid deep anaesthesia and marked fluctuations in the blood pressure. For the usual abdominal operations the following is a satisfactory method. The patient is anaesthetized with intravenous thiopentone sodium and not more than 0.5 g. is given. An endotracheal tube is passed and anaesthesia is continued with pethidine, given intravenously (dose 50 mg.); this is repeated if necessary, but not more than 25 mg. is given. For abdominal

relaxation tubarine up to 15 mg. is sufficient. A clear airway must be maintained, and bronchial aspiration may be required during and after the operation.

Post-operative Care

Routine methods are employed and emphasis is placed on certain aspects. Fluid, including blood, and electrolyte requirements are assessed and provided carefully. The manifestations of potassium deficiency, acidosis, or alkalosis are recognized early in their development and treated. Oral feeding is resumed as soon as possible. For post-operative sedation barbiturates are avoided and reliance is placed upon small doses of the morphine derivatives; chloral and bromides are also useful. Physiotherapy is given routinely, and early ambulation is required unless contraindications are present.

Summary

A series of 34 octogenarians who underwent surgical operation is reported. They are divided into two categories—those with malignant and those with non-malignant lesions—and the end-results are given. Certain principles in their treatment are stressed, and it is shown that many of them can be brought safely through major surgical operations.

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Medical Memoranda

Recovery after Overdosage with Methylpentynol

Methylpentynol is now being prescribed fairly widely as a hypnotic and as a means of allaying apprehension, but there are relatively few reports of the results of overdosage. The following case report describes recovery after ingestion of approximately 10 g. of methylpentynol in the form of a proprietary elixir ("oblivon"), and this appears to be the largest recorded overdosage followed by recovery.

CASE REPORT

A woman aged 39, weight 7 st. 8 lb. (48.3 kg.), was admitted to hospital on October 29, 1954, having taken approximately 5 oz. (150 ml.) of a proprietary elixir containing 250 mg. of methylpentynol per drachm (70 mg. per ml.). There was a history of previous mental illness; necessitating admission on a voluntary basis to a mental hospital in July, 1954, for a period of ten days. Since that time the patient had been depressed at intervals and had threatened to commit suicide.

About mid-morning on October 29 she drank 5 oz. (150 ml.) of methylpentynol elixir and was admitted to hospital at 3.30 p.m. She was then deeply asleep, but responded faintly to pressure on the supraorbital nerve. Her general condition was good: respirations 20, pulse 72, blood pressure 130/80. Her pupils were normal in size and reacted briskly to light.

On the assumption that absorption was probably complete, stomach lavage was not carried out. General supportive treatment was instituted, and methylamphetamine hydrochloride, 30 mg., was given intravenously every half-hour. At 6.30 p.m. she was less deeply asleep, and half opened her eyes when spoken to. Her general condition was good: respirations 21, pulse 72. By 8.30 p.m. she was half awake and making attempts to speak. At 10 p.m. she was able to speak and to answer questions, although still drowsy. At this point the methylamphetamine hydrochloride was discontinued.