CASE HISTORIES (5)

SUBMITTED BY:

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(Based on cases seen in Landour Community Hospital, North India in the summer of 1969.)

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Some Basic Diagnostic and Therapeutic Surgical Problems Encountered in India.

General Introduction:

The following are the case histories of five patients admitted to LANDOUR COMMUNITY HOSPITAL, MUSSOORIE, UTTAR PRADESH, INDIA, during the monsoon (JULY – SEPTEMBER) of 1969.

As its name suggests the hospital in question served the local community consisting of Indians of all castes and classes; missionaries and their children from the neighbouring school for American (and other) children; tribal people from the Tiri hills area of the Himalayan foothills; Tibetan refugees from a nearby camp known as Happy Valley; and Western hippies. The staff consisted of an Indian surgeon (trained in India, Canada and USA) and an expatriot British obstetrician and gynaecologist with the additional assistance on a part-time basis of a Japanese-American paediatrician. Nursing staff was predominantly Indian with one American nurse-anaesthetist, and an American and a British (VSO)

trained nurse. Ancillary staff consisted of one technician (trained in basic haematology, biochemistry and bacteriology) and a trained pharmacist.

The hospital operated as a general practitioner hospital with large daily out patient and antenatal clinics. Patients could be admitted from the outpatient clinic or as emergencies following accidents. Five mornings each week the operating theatre was in use. Major cases requiring complicated orthopaedic surgery, or thoracic, urological or neurological surgery were referred to the Christian Medical College, Ludhiana (200 miles to the west) along with those requiring radiotherapy or detailed and complex investigations.

INTRODUCTION TO CASES:

The five case histories which will be described are aetiologically and systematically unrelated. They do not represent rare syndromes. Nor do they elucidate hitherto puzzling disorders. Nevertheless, they represent to varying degrees diagnostic and/or therapeutic difficulties — difficulties to be found throughout what is now referred to as the "Third World". Such problems arise in the small government and mission hospitals

scattered throughout developing nations such as India. Not all such hospitals are remote - Landour Community Hospital is 2 hours by taxi and 8,000 feet above Dehra Dun, a large city, itself only 150 miles and 5 hours by taxi (12 hours by rail) from New Delhi. And yet no X-ray plates were available (for trade reasons) in the hospital. X-rays, however, were available in the local bazaar where a "radiologist" had set up shop. The electricity supply was somewhat erratic, and the water supply restricted to two tanks-full per day. Diagnostic facilities were severely restricted to what the one-man laboratory could provide by simple manual techniques.

Nevertheless, as will be shown, many such difficulties are with care and patience surmountable. In 10 weeks in this hospital only 2 patients died (one will be described; the other suffered severe multiple injuries in a road accident) although 7 of the 17 newborn children also died in this period. This mortality is low when it is considered that of the 60 beds, an average of 50 were occupied at any one time and bed-turnover was relatively fast. (Surgery in this period included partial gastrectomy; pyloroplasty and vagotomy; Caesarean sections; removal of Teratoma;

repair of recto-vaginal fistulae; vulvectomy and many other procedures none of which was accompanied by blood transfusion or plasma transfusion.)

CASE HISTORIES:

A. CASES of MAINLY DIAGNOSTIC DIFFICULTY:-

1. GASTRIC TRICHOBEZOAR:

KAUSHILYA DEVI - Female Aged 9 years.

Kaushilya complained of a DISTENDED ABDOMEN over a period of 3-4 days. She had no other complaints. She had NO pain and NO vomiting and her appetite was good.

On examination she appeared underweight (which was not unusual in that area.) She was clinically ANAEMIC and her hair was lustreless. She had a FIRM, MOBILE EPIGASTRIC MASS which was nontender to palpation. ~~Her~~

Investigations affirmed a hypochromic anaemia. Her stools were normal in lacking parasites and blood. Barium meal by fluoroscopy was performed when ~~a negative~~ plain abdominal fluoroscopy proved negative. The barium meal revealed a gastric filling defect which was difficult to visualise and demarcate.

The diagnosis was considered to be either a fibrous stricture (from corrosive or iron toxicity). Gastric neoplasia and peptic ulceration seemed unlikely in such a young child. The short

history suggested an ingested foreign body.

Laparotomy was performed. Gastrostomy revealed a large trichobezoar which was removed, with closure of the gastrostomy.

Fig. 1. TRICHOBEZOAR.

Discussion:

The difficulty arose in this situation partly from the inadequate radiology facilities, and partly from the dubious history. Many poor Indians will present a history they believe the doctor wants to hear and are loathe to reveal that they have tolerated symptoms for some time before seeking medical aid as they fear a reproach.

However, a laparotomy was in any case indicated.

2. BENIGN OVARIAN TERATOMA:

This patient, a woman of approximately 30 years of age, presented with a LARGE LOWER ABDOMINAL MASS. The patient had no other complaints. She could not say how long the mass was present; nor could she decide if it had increased in size recently. She believed she was pregnant (in spite of continuing, irregular periods) but feared the foetus was dead as no foetal movements had been felt. No urinary symptoms.

On examination the mass was large, cystic, and non-mobile. It extended across the abdomen from the right and up to within 4 finger-breadths of the xiphisternum. Vaginal examination was unhelpful. There was no palpable lymphadenopathy.

Plain Xray of abdomen proved negative and urinalysis revealed no haematuria, no albuminuria and no casts.

The diagnosis was considered to be an ovarian cyst or a right hydronephrosis. (IVP was not possible due to lack of facilities.)

Laparotomy was performed. A large right ovarian mass was found and removed. No lymphadenopathy was discovered in the pelvis.

The mass weighed 11½ lbs. and was

cystic. There were two large cystic loculi and an area of dense tissue in association with the ovarian pedicle.

The mass was opened and was found to contain a mucoid, haemorrhagic, yellow, lipoid jelly in the loculi. The denser areas were gritty to cut and showed tufts of hair.

An initial diagnosis of ovarian teratoma was made. Histological study (at Christian Medical College, Ludhiana) proved the teratoma to be benign.

Fig. 2. ABDOMINAL DISTENSION DUE TO BENIGN OVARIAN TERATOMA.

Fig. 3. ABDOMINAL MASS (TERATOMA)

Fig. 4. BENIGN OVARIAN TERATOMA - 11½ lbs

Discussion:

As in the first case the extremely dubious history rendered an accurate provisional diagnosis impossible. The patient had a superstitious fear of an abnormal abortive pregnancy and had, therefore, reported late and had given an inadequate history. (Fear of malignancy had not been instrumental in this.)

Again laparotomy was indicated in any case

but lack of facilities to perform an intravenous pyelogram would have rendered nephrectomy for gross hydronephrosis hazardous without evidence of normal function in the contralateral kidney. The finding of hydronephrosis at laparotomy would have resulted in closure of the abdomen and referral to Ludhiana Christian Medical College.

3. UMBILICAL ABSCESS:

A boy of approximately 7 years of age was admitted with an UMBILICAL SWELLING. Once more the duration of the illness was unknown as the boy's mother could not remember how long it had been present.

Bowel function was apparently unchanged and the child had NOT vomited.

On examination there was a protuberant umbilical swelling. The overlying skin was reddened, and the swelling was tender and fluctuant. Bowel sounds were normo-active.

Plain fluoroscopy of the abdomen was negative. There was no evidence of obstruction.

The differential diagnosis included umbilical abscess, & strangulated Richter's hernia, and inflamed umbilical hernia.

Fig. 5. UMBILICAL ABSCESS.

Fig. 6. UMBILICAL ABSCESS.

The swelling was incised and found to be an umbilical abscess which was drained. Systemic antibiotics were administered following culture and sensitivity results on the pus.

Discussion:

The parents were unable to state if the boy had an umbilical hernia for some time. Hence, the possibility of a strangulated Richter's hernia was borne very much in mind.

B. CASES of MAINLY THERAPEUTIC DIFFICULTY:-

4. FRACTURE SHAFT of FEMUR:

FOTO, a Tibetan of about 35 years of age was run over by a breakaway cart carrying a large load of rocks up the hill road. The cart struck him and forced him over an embankment. He fell approximately 10 feet.

He was admitted as one of two casualties involved in this accident. He was the less serious. He was shown on preliminary assessment to be shocked (pallor of skin; cold, clammy skin; BP = 110/70; pulse rapid and regular.) His main complaint was of pain in his right thigh.

After initial resuscitation with intravenous fluids, Xray confirmed the diagnosis of a fracture of shaft of the ~~right~~ left femur. The fracture was oblique in the distal third of the femoral shaft. There was slight displacement, but the fracture was a simple, closed one. There was no involvement of the knee joint.

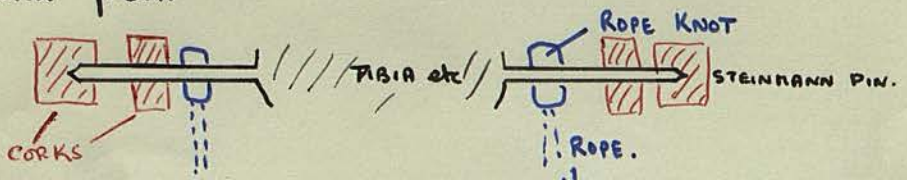
The ~~right~~ left lower limb was placed in a Thomas's splint and held in extension overnight with fixed skin traction. Abrasions and lacerations elsewhere were treated appropriately.

The following day the fracture was reduced under general anaesthesia and a Steinmann pin inserted through the tibia for skeletal traction.

A reference to the photograph will demonstrate in part the difficulty with this case.

Fig. 7. TREATMENT of FRACTURE SHAFT of FEMUR
- NOTE MAKESHIFT TRACTION APPARATUS.

The hospital had a limited supply of traction calipers and traction beams. All were in use. Hence, with the aid of the hospital engineer an improvised beam was constructed. In place of calipers, ropes and corks were placed on the Steinmann pin.



Balanced traction was impracticable, and knee flexion pieces for a Thomas's splint were unobtainable. Even the Thomas's splint was required for someone else. Hence, simple skeletal traction was employed.

The fracture healed in a normal time. Infection at the Steinmann pin was minimal. However, there was a slight degree of knee stiffness slowly resolved by physiotherapy in the form of active and passive joint movements.

5. SPREADING GANGRENE of CHEST WALL:

This female patient of approximately 45 years of age came from her Tivi hill village over 50 miles away. Her journey had lasted several days as the main road had been washed away.

She presented in a state of extreme malaise and cachexia with a pyrexia and a large fluctuant, warm, red, tender swelling on the Right side extending from approximately the ninth rib in the mid axillary line down to the loin.

Relatives reported that four or five weeks previously she first noticed a similar, smaller swelling in that area. At the local government hospital a small abscess was drained after incision. Antibiotics were also given. However, the abscess apparently did not resolve. Repeated aspirations were carried out. Eventually relatives persuaded the patient to seek help elsewhere, and she was carried to Landour.

Examination confirmed the presence of a large abscess as described above. X-ray examination of the chest revealed a pleural effusion on the right side, with a suggestion of right lower lobe pulmonary consolidation. Sputum was purulent and occasionally showed slight fresh blood staining. The

urine contained pus cells, motile rods, erythrocytes and some casts. Stools contained a few parasites (giardia lamblia and hook worm.)

Treatment consisted of aspiration of the pleural effusion which proved to be a pyema. Thick purulent pus was aspirated (approximately 75 mls). Subsequent chest Xray ~~rose~~ confirmed right lower lobe collapse. Pus was sent for culture and sensitivity

On the following day the abscess was incised under general anaesthesia. Incision resulted in ejection under high pressure of approximately 750 mls of thick, pinkish, foul-smelling pus, some of which was sent for culture. Free drainage was allowed and dressings applied.

The patient showed some initial improvement. Over the next three days dressings required to be changed three times per day. On the fourth day when the pus-soaked dressings were removed a large area (8 x 4 cm) of necrotic skin sloughed off leaving a subcutaneous layer of necrotic tissue.

During this time it proved impossible to culture any organisms. The laboratory lacked facilities for anaerobic or carbon dioxide culture. No organisms were isolated on standard culture and sensitivities were, therefore, not obtained. Antibiotics were administered empirically. A combination of

those available in the hospital were administered. ie Chloramphenicol; penicillin; streptomycin and rondomycin along with a protein-supplemented diet and multivitamin preparations. Dressings continued up to thrice daily. The wound was gently packed with "Cetrimide"-soaked swabs after irrigation with hydrogen peroxide.

The patient's general condition continued to deteriorate over the following week. The pneumonia failed to respond and the empyema re-accumulated slowly. Each day more necrotic tissue sloughed from the wound. Eventually the lower ribs, devoid of muscles, nerves, vessels and periosteum were laid bare. The perinephric tissue was obviously in the base of the necrotising wound. The wound deepened and also extended upwards over the chest.

Attempts to excise necrotic tissue to limit the spread of infection failed.

Various combinations of antibiotics were used in the later stages of the illness. However, ten days after ~~xxxxx~~ admission the patient died, from what appeared to be septicaemic shock. At no time was a causative organism isolated. Neither renal nor bowel function was affected.

Fig.8. SPREADING GANGRENE - NOTE EXPOSED RIBS, PERINEPHRIC FAT.

Discussion:

The difficulty in isolating causative organisms may have been caused by

(i) previous antibiotic therapy at the government hospital in an "umbrella" fashion but in inadequate dosage for an inadequate time.

and/or (ii) the presence of anaerobic or micro-aerophilic organisms which could not be cultured in the absence of anaerobic conditions.

In all probability & both these factors were operative. Lack of bacteriological information obviously hampered treatment.

The hospital also lacked adequate, broad-spectrum (particularly bactericidal antibiotics

for gram negative and penicillin-resistant staphylococci) antibiotics. The previous, probably haphazard, antibiotic therapy at the government hospital may have led to proliferation of resistant strains of organisms. (In the government hospital drugs were prescribed. Patients buy these or the nearest, cheapest "equivalent" in the bazaar, with no guarantee of purity and strength, and give them to the nursing staff who may, or may not, administer them as directed.)

This fatal gangrene, probably as progressive bacterial synergistic gangrene of the flank, resulted from inadequate initial therapy, both antibiotic and surgical, and failure at a later date to isolate the causative organisms and their antibiotic sensitivities. Lack of sufficient broad-spectrum, "second-line" antibiotics contributed to the overall inadequate treatment.

The causative organisms may have been micro-aerophilic non-haemolytic streptococci and staphylococci. These may have been introduced into the skin following the drainage (on several occasions) of what may have been a subcutaneous abscess (as the patient's history suggests) or more likely following repeated aspiration of the empyema thoracis. (To the patient these procedures would be identical.)

SUMMARY:

From the foregoing it is obvious that clinical histories are frequently, in such situations, both difficult to obtain and unreliable. The patients are not medically as sophisticated as those in the welfare states of the West. To them a history is pointless. What does it matter how long it has been present? The doctor can tell what is wrong by looking, listening and feeling. Added to this incomprehension is the desire to please: to say what is expected and at all costs to avoid giving the good doctor the impression that he is a last resort (following superstitious cures, patience and a visit to other quacks and doctors.)

Secondly, the frustration of lack of what in the West are adequate and necessary diagnostic facilities seems obvious. Resort is made earlier and more frequently to laparotomy in a situation where few clues to possible findings are available. Xray films to permit progress to be assessed during treatment were not available (due to the scarcity of films). Even fluoroscopy without a fully-trained radiologist was often difficult and inadequate.

Thirdly, the hospital relied on free drug shipments from American charities. Hence, a comprehensive stock of drugs was not available.

Many of the available drugs were therapeutic rejects - often comprising an ineffective cocktail derived in the imagination of second rate drug companies. Each month much of the drug stock was altered as each shipment differed from the previous in content depending on the current American fad. Only those produced locally (in India) were in constant supply. Drug therapy under these circumstances was often difficult and frequently second best was the choice.

Finally, these, and other, difficulties existed. However, they proved more challenging than frustrating. Frequently history-taking was more amusing than useful (e.g. the lady who requested the removal of her Hippe's loop because of the pain it caused in her feet; and the young man whose diarrhoea had been cured by codeine giving him great relief so that he was pleased to have only seven bowel motions per day.) Working in such situations was both stimulating and rewarding: modern Western medicine provides more than is necessary to aid the body in its own healing processes. However, modern medicine has the advantage of saving some lives and bringing comfort to many lives - a comfort which is not always possible in less privileged areas of the world.