OPERATION SHOVELLER

SURGERY IN CYPRUS

Lieutenant-Colonel N. G. KIRBY, O.B.E., M.B., F.R.C.S., R.A.M.C.

*Consultant Surgeon, British Military Hospital, Dhekelia**

SUMMARY: During Operation Shoveller seventeen casualties were received from Jordan at the British Military Hospital, Dhekelia. Their reception, treatment and subsequent disposal is described.

Introduction

At 1200 hours on the 30th September 1970 the British Military Hospital, Dhekelia (B.M.H.) stood down after having been alerted on the 14th September and having, at that time, expanded from 80 to 150 beds. This expansion had been in preparation for the reception of casualties which might be evacuated to Cyprus as a result of the fighting in Jordan. By 20th September the B.M.H. had been further expanded to 250 beds in order to back up the medical support operation in Jordan—Operation Shoveller.

At 1640 hours on the 30th September 1970 the Assistant Director of Medical Services (A.D.M.S.), Near East Land Forces (NEARELF) telephoned to say that 20 to 30 casualties were expected at Nicosia, some 40 miles away, in one hours time and would we please meet and admit them.

Reception of wounded from Jordan

The 17 (Table I) patients received at the B.M.H. had been wounded 4 to 14 days previously and had been flown from Amman by the French Air Force. They had been carefully selected; all requiring base hospital facilities for further surgical care. Thirty minutes after the instruction from the A.D.M.S. a team consisting of one medical officer, one nursing officer and two nurses left for Nicosia in a staff car and arrived there as the "last aircraft from Amman" landed—empty! The Royal Air Force Air Evacuation Unit was also at Nicosia and the Commanding Officer, Royal Air Force (R.A.F.), Nicosia provided hospitality while we were awaiting information. Shortly after an unidentified blip on radar was seen heading from Beirut and eventually radio contact established that it was a French aircraft with seriously wounded on board. It had taken off, after dark, using only landing lights. The Health and Immigration Authorities of Cyprus gave us full assistance to meet the aircraft and we were able to drive our ambulance convoy right up to it. The French doctor had sorted out the four worst casualties, and we sent them off with the Nursing Officer in the R.A.F. ambulance. The others, walking and stretcher cases, were put in a stretcher rigged coach and ambulances and despatched to Dhekelia. This procedure took some twenty minutes. I returned in a staff car and overtook most of the convoy arriving at the B.M.H. as the first ambulance was being unloaded. In such circumstances the provision of a separate staff vehicle is of the utmost importance giving extra mobility and freedom of action to the officer in charge.

Reception and triage was carried out in the main entrance to the hospital (Fig. 1) by Major T. Evans, an experienced consultant of the T.A.V.R. who was on his annual training. He sent those for intensive care to Ward Two for urgent transfusion or dressing (Fig. 2), whilst those requiring only oral fluid and nursing went to Ward One. All of them were exhausted, dehydrated, frightened and hungry (Fig. 3).

* Now Cambridge Military Hospital, Aldershot

Table I
Patients admitted to British Military Hospital, Dhekelia

Case Number	Nationality	Sex	Diagnosis	Disposal
6	Jordanian	Male	Multiple GSW back (paraplegic)	Discharge 21.10.70 to Jordan
26	Jordanian	Male	GSW right foot	Discharge 31.10.70 to Jordan
28	Jordanian	Male	GSW, back injury and left foot	Discharge 11.11.70 to Syria
12	Jordanian	Female (13 years)	Burn of face and hands	Discharge 31.10.70 to Jordan
11A	Jordanian	Female (5 years)	Back injury, GSW	In-patient*
27	Jordanian	Male	GSW right buttock and groin	Discharge 31.10.70 to Jordan
9	Jordanian	Female	GSW head and swelling right side of face	In-Patient*
10	Jordanian	Female	GSW right shoulder and abdomen	Discharge 31.10.70 to Jordan
5	Jordanian	Male (13 years)	Fractured skull right side, left hemiplegia. GSW	Discharge 12.12.70 to Amman
11	Jordanian	Female	Fractured right femur. 8/12 pregnant	In-patient*
7	Jordanian	Male	Forty-five per cent burns	Discharge 19.12.70 to Jordan
4	Jordanian	Male	Lacerations of the scalp. GSW right groin and fractured skull	Discharge 31.10.70 to Jordan
31	Palestinian	Male	GSW right shoulder	Discharge 16.12.70 to Syria
30	Palestinian	Male (20 years)	Fractured right tibia and fibula. GSW	Discharge 16.12.70 to Syria
29	Palestinian	Male	Fractured right tibia and fibula. GSW	Discharge 12.12.70 to Amman
8	Palestinian	Male	Penetrating wound right groin. GSW	Discharge 12.12.70 to Amman
2	Palestinian	Male	Severe burns of hands, legs and face	Discharge 31.10.70 to Jordan

*Since discharged to Jordan.

They were examined in more detail on the ward and notes were written. The consultant anaesthetist and I went round together allocating times and priorities for transfusion and operation. We decided to give them all a night's rest before starting operating, and made out our provisional list for the next forty-eight hours.

The Physician did a ward round looking for evidence of any serious tropical diseases, particularly cholera which was present in some areas of the Middle East at the time.

Fig. 1. Triage of Case 30 on 30th September 1970.

Patient identification

All beds were numbered and this number was written on the patient, on all his documents, radiographs and the operating list. 2 Field Hospital working independently in Jordan adopted the same procedure which worked extremely well and its use for the reception of mass casualties is recommended.

Wounds

The wounds had been caused by the usual high and low velocity missiles, two were by bullets, thirteen by shell or mortar fragments, and three were burns from flame and phosphorus. All were infected, the commonest organism being a coagulase positive staphylococcus; *Ps pyocyaneus* and *Esch coli* were less common. We found that there was a change in the sensitivity pattern as resistance to chemotherapy developed.

Most of the wounds had not had any treatment. There was one, Case 30, who had had primary suture without debridement and he would have been in a much better condition if it had been left alone. This demonstrated the cardinal sin of inexperienced war surgery and I think that we should add to the Hippocratic Oath the further vow "I shall not risk my patient's life or limb by primary suture particularly without the excision of the wound".

Fig. 2. Dressing of Case 12 on 30th September 1970.

Operative treatment

On 1st October twelve major operations were carried out and all were essentially a delayed debridement; there were two craniotomies. On 2nd October the five remaining cases were operated on and included a further craniotomy and a laminectomy on a paraplegic patient with a small fragment of metal in his spinal cord. Decompression of the cord was followed by improvement in sensation but unfortunately not in motor power. Alterations in priority for operation had been necessary due to changes in the condition of patients overnight.

These operations were to remove fragments of debris, bone, dead muscle and blood clot and to decompress by slitting the deep fascia and establish drainage—in fact the basic surgery of high velocity missile wounds.

Further operations were performed later when the infected tracks were cleared with a Volkmann's spoon and dead bone removed with bone nibblers. Attempts at secondary suture were carried out, but in only two patients were these successful. The best treatment we found was to encourage the wound to granulate and then apply a split skin graft. In the case of the wounds involving bone bismuth iodoform paraffin paste (B.I.P.P.) was

Fig. 3. Case 30 on admission to Ward on 30th September 1970.

applied using a wick of gauze soaked in the paste. This was first used in World War One and seems just as effective today in the treatment of neglected missile wounds. A total of 70 operations were performed.

Burns

The American Army plastic surgeon introduced me to Sulphamylon and I was extremely impressed by his results. Baths twice daily, using a solution of Phisohex or soap and water, followed by the application of the Sulphamylon paste rapidly produced a granulating surface which could receive grafts. I obtained some and used it on our cases. In less than three weeks grossly contaminated burns of the hands were grafted, healed, and were mobile. We did not have a proper bath but used the bed bath technique one limb at a time, and this has given quite good results. The normal practice of adequate blood transfusion and split skin grafting at weekly intervals after demarcation of whole skin loss was carried out on the two patients requiring grafting.

Communication

Language difficulties were experienced but fortunately we had a typist who spoke good Arabic, our Chief Wardmaster had some colloquial knowledge and one of the patients spoke good English. There were occasional frictions—particularly when the

patients were feeling stronger and were obviously more healthy. These were due partly to political arguments and partly to poor communications; they usually followed reports on radio or television of shooting in Amman. Following the evacuation of two extremely vocal patients there was no further trouble.

Nutrition

A modified hospital diet, avoiding pork and adding extra spice, was used. Eventually most of the patients ate a normal European diet with high protein but of course without pork. For the Ramadan Festival a special dispensation was obtained from the Muktar of the local Turkish Village.

Relief of Ferrie Force in Amman

On 12th October a Field Surgical Team (F.S.T.) was sent to 2 Field Hospital to give 50 F.S.T. rest and recuperation. Within an hour of arrival they were carrying out a major abdominal operation in a strange theatre. It speaks highly of the Field Hospital organisation that no problems nor delays were experienced. A total of 25 operations were carried out in forty-eight hours by the team. Reliefs for the radiographer, laboratory technician, all operating theatre technicians, and all Q.A.R.A.N.C. nursing officers, were also sent to 2 Field Hospital from B.M.H. to give the Ferrie Force staff opportunity for rest. All my staff were impressed by the organisation, facilities available and the high state of morale of 2 Field Hospital.

Visits were paid to the American, French, Swiss, German and Italian teams and we were able to see that all had the same problems of neglected wounds. There were very few abdominal or chest wounds—most of these had obviously died before relief was available.

Four case histories

Case 5. A 13 year old male refugee who had been hit on the head by a shell fragment five days before. He had a compound depressed comminuted fracture of the right vault of the skull with a left sided hemiplegia. Craniotomy was performed and contaminated fragments of bone removed, there was a dural defect 5 x 2.5 cm with macerated brain and foreign bodies beneath. The dural edges were trimmed and necrotic brain and blood, under tension, aspirated by gentle suction. Haemostasis was secured and the dura repaired by a fascia lata graft. A redivac drain was left in position for forty-eight hours.

Post operatively there was sloughing of part of the scalp, around the entry wounds and overlying the fascial graft. The graft remained viable and was rapidly covered by epithelium.

The day after operation there was improvement in motor power of the lower limbs. Intensive physiotherapy and mobilisation with a walking caliper was carried out. Within a month he was walking without a caliper and some movements of the elbow wrist and hand were returning.

Case 7 (Fig. 4). A 35 year old male who had been burned 10 days before. The total body surface burnt was 45 per cent, with 20 per cent partial skin loss (p.s.l.) plus 25 per cent whole skin loss (w.s.l.). All burns were infected. Initial treatment, following wound toilet under Ketamine, was closed using tulle gras and wool. This was followed by pyrexia and the dressings were removed. Following the use of Sulfamylon (applied as a paste covered

Fig. 4. Case 7 on admission on 30th September 1970.

by a layer of gauze) the p.s.l. burns healed rapidly and desloughing of the w.s.l. burns occurred rapidly allowing grafting to take place. The hands were grafted, healed, and moving within twenty-one days of admission. By early December no further grafting was required and he was gaining weight.

Case 11. A 30 year old pregnant woman who had a comminuted compound fracture of her right femur about twelve days before. She was anaemic, the wound was contaminated and contained dead muscle, clot and foreign bodies. Following transfusion debridement was carried out. Traction was applied through a Steinman's pin. Six days later the wound was clean and it was sutured. The wound healed and the fracture united rapidly. Two months after admission the pin was removed and skin traction was applied. This was just in time as she delivered her baby without any difficulty in early December.

Case 30 (Fig. 3). A 20 year old male who had a four day old compound comminuted fracture of Right tibia and fibula. This had been sutured without debridement. He was toxic, pyrexial, and in pain. After transfusion the wound was explored and delayed excision performed: necrotic muscle and blood clot were removed and the deep fascia split to decompress the limb. The circulation to the foot was improved and the pain was less. B.I.P.P. was applied using a gauze wick; this appeared to improve drainage and the wound soon became clean. It was grafted on the 19th October and 12th November. A padded full leg plaster of Paris (P.O.P.) was applied and the wound treated through a window. Union progressed slowly at first but two months after admission the fracture was clinically stable and skin cover was complete. A full leg P.O.P. was applied and the patient returned to Jordan using crutches.

Repatriation

Eleven patients returned to Amman and three asked to go to Damascus. This was arranged by the Sovereign Base Area Administration in conjunction with the Cyprus Government and the Syria Embassy.

Conclusion

The cases received from Jordan during Operation Shoveller demonstrated the results of neglecting the basic principles of War Surgery—early Primary Excision and Delayed Primary Suture. A lesson so often forgotten and to be learned again in the early stage of a conflict.

Senior Appointments

Major-General J. P. Baird, Q.H.P., M.D., F.R.C.P.(Lond. & Ed.), to be Commandant and Director of Studies, Royal Army Medical College, in July 1971, in succession to Major-General J. M. Matheson.

A note on his career was published in the Journal, Volume 115, No. 1, 1969.

Major-General J. M. Matheson, O.B.E., T.D., Q.H.S., M.D., M.R.C.P.(Ed.), F.R.C.S.(Eng. & Ed.), to be Deputy Director of Medical Services, Headquarters Army Strategic Command, in August 1971, in succession to Major-General R. I. Mitchell.

A note on his career was published in the Journal, Volume 115, No. 1, 1969.

Major-General R. I. Mitchell, O.B.E., Q.H.P., M.B., to be Director of Medical Services, British Army of the Rhine, in September 1971, in succession to Major-General R. A. Smart, who is retiring.

A note on his career was published in the Journal, Volume 115, No. 2, 1969.

Colonel T. W. Carrick, O.B.E., M.B., D.P.H., D.I.H., has assumed the appointment of Director of Army Health, in the rank of Brigadier, in succession to Brigadier M. M. Lewis, deceased.

Brigadier Thomas Welsh Carrick was born on 19 December 1914. He was educated at Glasgow Academy and Glasgow University and graduated M.B., Ch.B. in 1937. He obtained his D.P.H. in 1951 and D.I.H. in 1961, and was appointed O.B.E. in 1959.

He was appointed from a Short Service Commission to a Permanent Regular Army Commission in the Royal Army Medical Corps on 26 October 1945.

During his Service career he has served world wide and has held a great variety of command and staff appointments.

His most recent appointments have been Assistant Director of Army Health, Headquarters 17 Gurkha Division and Headquarters Scottish Command, Director, Army Personnel Research Establishment, Deputy Director of Army Health, Headquarters Army Strategic Command and Professor of Army Health, Royal Army Medical College.

Currently, Brigadier Carrick is Honorary Editor of the Journal.