HOSPITAL DESASTER PLANNING@

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It is a known fact that the simultaneous admission of twenty five seriously injured or burned patients will completely disrupt the routine of any hospital in peace time. This illustrates the fact that to handle casualties, there are 2 basic requirements—detailed prior planning and a well orientated, trained group of people to carry the plan into operation. The plan must be as simple as possible so that the hospital can be reorganized without too great loss of time and efficiency.

The potential for a disaster situation exists whenever a large group of people are congregated. Theatre fires, aeroplane crashes, mob violence, road accidents and earthquakes are the examples. Disaster planning is no longer limited to the military, but is an essential aspect of preventive medicine.

The hospital disaster plan should be drafted by a disaster committee of which the administrator of the superintendent of the hospital should be the chairman. This should include chief of surgery, chief anaesthetist, chief pathologist, chief radiotherapist, chief of the nursing staff etc. The plan should be familiar to each and every members of the hospital staff. There should be mock exercises and the members of the committee should meet frequently to review the plan. There should be liason between hospital disaster committee, rescue operations and traffic control section of the police. Once a disaster is recognized, the hospital administrator or the chief of surgery puts the previously rehearsed plan into operation. Plan of action is as follows:—

1. Immediate suspension of all private practice.
2. Notify the member of the staff.

All the members of the committee are informed as soon as possible. All doctors and

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hospital pharmacists should be called to the hospital.

3. Increase in bed accommodation.

(a) Approximately 60% of patients are ambulatory medical cases, post operatives or for investigation. They can be discharged by a previously assigned doctor. Ward medication for several days can be sent with them.

(b) Additional beds, mattresses should be considered in advance. A wall hook should be provided for each mattresses or additional beds. The hooks may be used for holding I. V. bottles.

(c) Physiotherapy depts., dinning rooms recreation rooms and prayer halls can be used for accommodating the patients.

4. Traffic plan.

The traffic routes must be predetermined and well indicate. Police guards are required at every entrance to prevent the influx of anxious relatives and the curious. There should be separate entrances for the hospital staffs who should carry identification tags.

One separate entrance for the ambulatory casualties who can proceed to out patient area, second one should be only for the staff and the third one only for the stretcher cases. The directional signs must be conspicuous. There should be a guide who knows and whereabouts of the hospital very well.

The ambulance traffic should be one way. Volunteers should empty the ambulance so that the driver can remove the ambulance promptly for the unloading area.

5. Triage area;

Should be in the reception area. Here the chief of surgery assisted by a senior nurse and a clerk sort out the patients into different categories. In this area there should be no attempt at treatment otherwise a bottle neck will develop. The surgeon will do a quick examination and gives a short description of treatment and investigation. Bowers and Hughes suggest 3 main categories :—

Minimum treatment group.

This forms 40-45% of the total casualties. This includes :

(1) Walking wounded. 2nd degree burn of less than 19%, minor laceration and simple fractures which do not interfere with ambulation.

(2) Minor injuries rendering the victim none effective such as foot fractures, swelling around the eyes and moderate psychiatric disorders.

b) Immediate Case Group. 20% of the total load.

(1) Haemorrhage from a readily accessible site which can be controlled by primary ligature or bandage.

(2) Severe facial or pharyngeal wounds which may require tracheotomy.

(3) Mechanical respiratory defects which can be corrected rapidly sucking wounds (need occlusive dressing), tension pneumothorax (needs aspiration) etc., are examples.

(4) Severe crushing wounds of the limbs.

Haemorrhage or toxic absorption is prevented by amputation or accomplishing a physiological one by a tourniquet until surgically performed.

(5) Severe lacerations and compound fractures.

(c) Delayed care group 20%.

Here either delay will not alter the prognosis or resuscitation is needed for surgery.

(1) Abdominal wounds- I. V. fluids, suction and antibiotics should be given 68% survival can be expected.

(2) Closed fractures of major bones-give splints.

(d) Expectant care group 20%: There is slight expectation of survival with optimum intensive treatment.

(1) Multiple severe injuries.

(2) Burns of 2nd or 3rd degree excluding 40% surface area.

6. Priority by case group.

No matter by what criterion patients are categorized into treatment groups, the same conditions remain at the top of the list-patients who are losing blood and patient who have some interference with free breathing. It has been shown that difficulties in one or both of these fields cause most of the deaths from trauma in the first 48 hours and it is known that whole blood will be an extremely scarce commodity in a disaster situation. Consequently blood loss or even small amounts must be stopped at the earliest possible moment. Only after haemorrhage is controlled and blood replacement has been started and an adequate airway is assured, it is time to think of therapy for the wounds themselves.

Treatment of extensive burn cases will be the simplest of any care group and this is related to ward care. These cases will not go to the operative theaters though they may need tracheotomy. Extensive soft tissue injuries will be the first case types taken to the operating theater. Open fractures are dealt with at the same time as soft tissue wounds are debrided,

using the quickest and simplest methods of reduction and fragment fixation not only to conserve time but because extensive bone work in an infected field is poor judgement. Closed fractures take low priority except for splinting.

If the abdominal wounds are to be operated upon, this should be accomplished in the first 8 to 12 hours. Patients who survive the initial period stand a good chance of spontaneous recovery with the various complications of peritonitis, fistula and adhesions, but recovery is none-the-less.

Wounds of the external genitalia will be handled as any soft tissue wounds with the special requirement that provision must be made for the urinary system either by urethral catheter or cystostomy. Wounds of the internal genitourinary system are considered with abdominal wounds.

Central nervous system wounds have low or no priority for operation in a mass disaster because of shortages of personnel and length of time required.

Maxillo-facial and eye cases will have low or no priority for operation except for control of hemorrhage and maintenance of air way.

7. Documentation :

Documentation must be adequate. To avoid the problem of unidentified persons, numbers should be assigned in the triage area and tied to the patient. Brief clinical notes are essential to avoid reexamination of the patient or to avoid the danger of repeating dangerous drugs such as Morphine etc.

8. Information service :

Information service must be established near the hospital. There should be accurate records of the victims and the relatives and the press should be able to get information about the patients.

9. Supplies :

Supplies of materials such as burn dressings, antitetanus injections, splints, blood volume expanders and Ringer's lactate should be stockpiled.

10. Disposal of D. O. A. :

The dead on arrival should be left in the ambulance and taken to a suitable place such as nearby school or a temple where they can be identified by relatives.

11. Supply of diet :

Special diets are suspended. The existing facilities must be expanded. A mobile canteen will be more practical in disaster situation. Benevolent associations such as Paropaka or Redcross can be asked for providing simple meals for the patients.

Experience has shown that proper assessment of the situation, prior planning, utilization of preformed organization using short-cuts and modifications in accepted treatment will allow a faint ray of hope in place of the gloom of total defeat.

Reference :—

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2. Mack, G. J. 1970 JNMA, 8, 41.