

regard for each other,—to acknowledge each others contribution to a common cause—that of serving our patients.

Once again I thank you for the honour you have done me in asking me to share this Conference with you. I must also thank the members of my staff—Dr. Goel, Dr. Srivastava, the House Surgeons

and the Nursing Staff who have taken a keen interest in organising this symposium. My thanks go to Dr. Sahani, Superintendent of the Hospital for his permission to bring some of our patients and equipment here ; and our Director of Medical and Health Services, Dr. Lal, for providing transport.

Nursing Problems in Paraplegia

by

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I would first speak a few words on the 'Nursing Problems in Traumatic Paraplegia' in our hospital. I feel it is a privilege to speak on this subject before this distinguished gathering of nurses.

A few year ago young patients afflicted with traumatic paraplegia were condemned to the monotonous life of permanent crippledom. Not only this, but these patients underwent severe agonising mental and physical tortures ; they used to lie all day long, often soiled in faeces, wet in urine, and would inevitably develop large foul bed sores, intractable cystitis, the most revolting deformities, and finally sink in few weeks or months into the jaws of death. Their plight was pitiful, their sight horrible.

What a different scene today ! Due to the never waning zeal and enthusiasm, crossing obstinate hurdles with smile and perseverance, my revered Teacher and Chief-Professor B.N. Sinha, Head of the Department of Orthopedic Surgery, King George Medical College, Lucknow, has been able to establish an Orthopedic Rehabilitation Unit in this hospital where patients with traumatic paraplegia are properly treated and cared for. This has brought about a dramatic reduction in the mortality rate of these cases as compared with the high mortality rate of the past. We have been able to reduce the mortality rate to 15% and disprove the old conception that the paraplegic was unproductive, unemployable and socially useless. This

is probably the only Orthopedic Centre in our country where so many cases of traumatic paraplegia are being treated and rehabilitated to a life of useful citizenship. In spite of this we are miserably short of funds, equipment and trained nurses to efficiently carry out the complete management of these patients. If adequate facilities are provided, we can be certain that the mortality rate could be still further reduced.

Whatever else is said and done, nursing problems and opportunities, in these cases of traumatic paraplegia are tremendous. I will briefly discuss a few of them that we encounter in our department, under the following headings :

1. Reassurance to the patient.
2. Care of the skin.
3. Care of the bladder.
4. Care of Bowels.
5. Nutrition.
6. Sexual functions, spasms.
7. Physiotherapy.
8. Social and Occupational.
9. Some Problems.
10. Sympathetic and helping attitude of relatives.

1. Reassurance to the patient

We loudly emphasise the need to reassure the patient but it is often

very difficult to practice.

These patients often harbour feelings of bitterness and sometimes prefer to die rather than to live, so much so that they may become obstinate and disobey instructions, and may refuse to take any treatment. Their attitude is often pessimistic and their language may be abusive. Persistent perseverance is absolutely essential and nurses must not lose their temper; a smile can often win them over. For those patients who will not lie calm and quiet as instructed, we had to find a new first-aid splint.

2. Care of skin

Strict 2 hourly turning is essential. Treatment to pressure points and toilet 2 hourly; this care needs the highest dexterity, ingenuity and skill of a nurse. Good care of the skin is especially necessary for the first three months to avoid



Dr. Goel demonstrates the set-up for catheterization.

bed sores; a real problem of great magnitude, which often decides the destiny of the paraplegic.

Once a patient develops a bed sore, his destiny is sealed. His life line shrinks as rapidly as the sore enlarges.

3. Care of bladder

Another great problem which affects the life line of patient. Care from the very beginning is essential. This includes strict aseptic "non-touch" technique in catheterisation. Training of the bladder; antibiotics according to the sensitivity of bacteria; supra-public cystostomy for intractable cystitis; tidal drainage, and the use of rubber glove and rubber urinals for incontinence.

4. Bowels

Care of the bowels demands close attention. Constipation is avoided by an enema given on alternate days. Severe diarrhoea must be immediately controlled by starch/opium enema and a bismuth kaolin mixture. Training of the bowels should be instituted.

5. Nutrition

Malnutrition and dehydration is usually seen. Bouts of sweating result in electrolyte and fluid loss. Chronic infection that depletes proteins and fosters anaemia.

The patient should be kept on a high protein diet, liver-juice etc. Repeated blood transfusions are given when needed.

6. Sexual Functions

The wide spread belief that patients with spinal injury with paraplegia are completely impotent and infertile, is unfounded. In the more difficult patients-3 mgs. of Prostigmine (.5 mgm.—1 c.c.) intrathelial injection promotes erection and even ejaculation.

Spasms

A very great nuisance due to loaded bowels, distended bladder, infection of bladder, bed sores, anaemia.

Correction of these help to control spasms.

Physiotherapy : Postural exercises, exercises under water at 98·8 F are helpful.

Principles

Drugs have little to offer.

Prostigmine—(intrathecal) offers temporary relief.

Intrathecal Absolute Alcohol—inj. of 10 c.c. is given in intractable cases.

7. Physiotherapy

Physiotherapy plays an important part in the rehabilitation of the paraplegic. The Physio-therapists' programme aims at readjustment and muscle education.

Full range passive movements to avoid contractures is given twice a day.

Over development of muscles of shoulder and trunk compensate for wasted lower region muscles—reorientation is necessary.

Training patient to dress himself and co-ordinate his efforts.

Control of posture before a mirror. The muscle-*latissimus dorsi* helps in control of posture.

Training in walking and falling is given.

8. Social and Occupational

This needs the attention of the authorities. As a result of the high survival rate, the problem of the paraplegic today can no longer be considered solely as a medical problem. It has become a social problem of increasing importance.

The paraplegic should no longer be considered as unproductive, unemployable and socially useless. It is necessary to adjust the paraplegic to a completely new scheme of living; to become independent as much as possible, and master his disability.

For this is needed—

Special settlement homes and rehabilitation centres.

Adjustment of patient's own home.

Home nursing equipment.

Means of transport.

Industrial rehabilitation.

Co-operation of mill owners and the Ministry of Labour to provide these patients with employment before they return home. This is a point of utmost importance as these patients easily lose the heart if efforts to obtain employment are frustrated. Disinterest and negligence on the part of the authorities concerned in 'after-care,' may cause colossal damage and the entire treatment for the paraplegic lost.

9. Some problems

A big handicap is the patient who comes in too late, often with intractable cystitis established, and bed sores;

The patients who will not co-operate;

The hot climate—

Profuse perspiration during summer months. These patients do not always tolerate sorbo-rubber packs and perspire even on the air pillows. We are now trying water pillows filled with ice cold water during summer.

Paucity of trained sweepers and ward boys.

The nurse who refuses to attend to the patients' toilet, (yes, they exist!).

The frequent changing of nurses and their duties, is another problem. There is a great shortage of nurses and the number of patients is increasing. This difficulty led us to the discovery of the "hanging" paraplegic bed. On the "hanging" paraplegic bed, the patient can be tilted with the entire wooden frame in one piece, just by manipulating two ropes. Thus two hourly turning can be done by one nurse alone. A well trained permanent "Paraplegic Team" is essential for the successful nursing of paraplegic patients.

10. Sympathetic and helping attitude of the relations

Lastly, the sympathetic and helping attitude of their near relatives and intimate friends is fatal to these patients. This attitude forcibly impresses upon the patient an inferiority complex which mars

their entire zeal and enthusiasm. Under good hospital conditions he seems to become satisfied with his changed life and remarkably well reconciles himself to his

personal problems, but the unwanted sympathetic attitude of near relations usually make an otherwise cheerful patient miserable.

Initial Management of Spinal Injuries

by

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Injuries of the Spine are very important because of the prolonged disability which follows indifferent or belated treatment, and because of the danger of likely injury to the spinal cord. The injuries may be :

1. Soft tissue injuries.
2. Fracture of spinous process and transverse process.
3. Fracture of neural arch.
4. Fracture of body of vertebræ, with or without paraplegia.

The first three are caused by sudden contraction of muscles against resistance or by rotational strain, which produce pain, tenderness, rigidity at the site of injury, and even loss of function. These patients are treated in our Department by a Plaster of Paris spinal jacket for four weeks which gives rest to the soft tissues ; the patient can walk after a week. These are classified as safe or stable fractures.

Fractures of bodies of vertebræ are serious because of the danger of damage to the spinal cord, nevertheless the great majority of fractures are quite safe fractures and give excellent results. The fracture of body of vertebræ may be produced either by a fall from a height, when the patient lands on his feet or buttocks causing a vertical compression of the body. This is the most common type of injury and the fracture thus caused is a safe or stable type of fracture. The second variety of fracture is produced when the patient is bending and suddenly some heavy object falls on his back (it happens to miners). This produces a

severe comminuted type of fracture and may even damage the spinal cord. These are unsafe or unstable types of fracture.

The third type of fracture of spine is produced by a sudden impact with an object moving at high speed such as a motor vehicle ; the impact at the upper part of back from behind not only flexes the spine but also drives the upper part forward thus producing fracture, dislocation and even crushing of the cord. This is a serious injury and produces an unsafe or unstable type of fracture and, perhaps, paraplegia. All these fractures produce pain, deformity, tenderness, rigidity and loss of function of the spine. The diagnosis and the type of fracture is confirmed by X-ray.

Every patient with a spinal injury who gives a history of trauma and pain in the spine, should be diagnosed as a case of "fracture of spine" unless and until proved otherwise radiologically, and should be handled as a case of fracture of the spine. Initial management of every case of spinal injury should be the same ; any carelessness may damage the spinal cord.

Initial Management of Spinal Injury

In all discussions on first-aid in spinal injuries, the need for standardised, simple instructions is of paramount importance, and we in this Department carry out the following instructions :

1. The patient who is suspected of a spinal fracture following an accident, is warned not to move.

2. At least four persons are