

Brachial Plexus Injury

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Plexus

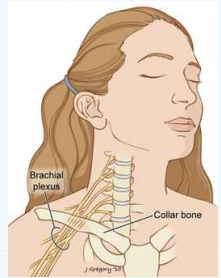


P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE

Brachial Plexus Injury

What is Brachial plexus?

Brachial plexus is a network of five nerves in the neck and upper arm on either side. This network is formed once these five nerves come out of the spinal cord. Through this network electrical activity/signals are transmitted from the brain to the muscles of the upper limb. The movement and the sensation are controlled by the nerves of the brachial plexus.



Injury to the Brachial plexus results in

Paralysis of the upper limb either partially or completely depending upon the severity of injury and the extent of nerves involvement.

In addition, the sensation of the upper limb is affected along with severe pain, numbness and progressive thinning of the upper limb.

What causes Brachial plexus injury?

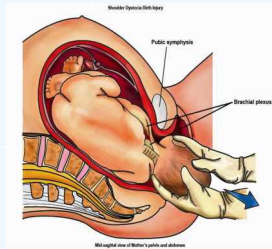
When the shoulder is forcefully pushed down and at the same time the neck gets stretched up and away from the injured shoulder, the nerves of the brachial plexus gets stretched and damaged. The resultant effect of the damaged nerves is paralysis of the upper limb on the affected side.

Often they are associated with bone fractures or blood vessels injuries.

The common causes of brachial plexus injuries are:

Automobile accident-

- Motorbike accidents being commonest in our country (80%)
- Contact sports like football, Rugby
- Following child birth or normal but complicated delivery
- Following Surgery in the neck or upper arm



Problems with Brachial plexus injuries

Late consultation of the patient to the Specialist of Brachial plexus

Significant percentages of patients who develop sudden paralysis of the upper limb are young

Wrong Myth among the Doctors and Patients that physiotherapy will cure the problem. It is important to know that Physiotherapy has no Role in the recovery of Nerve Function. Recovery can happen by Natural process or by Surgical Intervention.

What will happen when Brachial plexus injury is left untreated?

A significant percentage of patients with brachial plexus injuries recover on its own. Patients who fail to recover and are left untreated, the arm will progressively undergo thinning or wasting, there would be dislocation of the shoulder due to paralysis of the deltoid muscle. The patient would have decrease sensation in the affected upper limb, the joints would be stiff and often the disability would be permanent.

Role of Physiotherapy in the recovery of the upper limb paralysis following Brachial plexus injury

Physiotherapy has no role in the recovery of the nerve function. However, physiotherapy should be done regularly as it keeps the joints lax and muscle in tone and prevents joints stiffness.

What Investigations should be done in Brachial plexus injury?

MRI of the brachial plexus and EMG-NCV are the two investigations one needs to do in Brachial plexus injury. However, these investigations should be done after 4-weeks of the injury and not immediately after the injury or accident. It should be noted that neither of these investigations can exactly let us know as to what is the extent/ Degree of nerves damage.

How is the Brachial plexus injury managed?

The treatment plan in brachial plexus injury is to observe and wait for a period of 6 - 8 weeks and continue symptomatic treatment for pain and numbness. Passive physiotherapy should be started at the earliest to prevent joint stiffness and contracture. Physiotherapy also helps in reducing the intensity of pain.



At 8-weeks if there is significant improvement in the movement of the upper limb function, then rehabilitation/ physiotherapy is continued. However, if there is insignificant or no improvement then only option available is surgical operation which consists of nerves repair/ grafting. In brachial plexus injury following sharp weapon or any operative procedure, surgical repair should be done at the earliest without wasting any time.

What is the treatment for pain and numbness following Brachial plexus injury?

The pain and numbness in the upper limb is following the nerves injury. All patients with brachial plexus injury suffer from this problem with variable degree of severity.

One should keep in mind that it decreases in severity over 3 months interval. The treatment options are Analgesics and Gabapentine for pain and numbness. Vigorous and regular physiotherapy helps in alleviating this problem. Also positive thinking and hope to become better also helps in improving the problem.

What are the results?

The results of brachial plexus surgeries are not bad as is projected. Timely intervention and treatment has excellent chance for functional recovery.

Take Home Message: All patients with brachial plexus injury don't need surgery. Surgery is indicated in a patient who fails to improve after 3-months of observation. The results of surgery are good if operation is done

within 3 - 4 months of the injury. Mind you physiotherapy or any medications has no role in the recovery of the nerves function.

For Brachial Plexus treatment:

Contact: Dr. Ketan Desai

Day: Monday & Friday,

Timing: 9:00 am - 12:00 pm,

Venue: Room No. 1412, 1st floor,
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