

BRACHIAL PLEXUS INJURIES – FROM DESPAIR TO HOPE

Dr. Raghuram Menon
Consultant Plastic & Reconstructive Surgeon, Iqraa Hospital, Kozhikode.



Brachial plexus injury (BPI) is one of the most devastating injuries from the point of view of the patient. It effectively cripples function in one and rarely two upper limbs, causing significant loss of function and ability to perform tasks of daily living as well as delivering in his/her workplace. Potentially this can lead to unemployment, economic hardship, depression and in rare instances even suicidal urges. The typical patient is a young male who has had an accident while riding a two wheeler where he has been thrown off the vehicle and suffered traction between neck and shoulder damaging his plexus to varying degrees.

In Brachial Plexus injuries time is a function. It is vital that this very valuable segment of our population is functionally restored as early as possible to the best of our ability. With modern techniques in hand and microsurgery, this is very much feasible provided the patient is treated in time. There are techniques available for late referrals too, but early commencement of treatment makes a huge difference to the eventual outcome....

In the majority of cases treated by the author as also elsewhere in the world, the main etiology remains vehicular accident typically on a two wheeler. A list of common etiologies is given below:

- Vehicular accident (majority two wheelers) accounts for >90% of cases.
- Industrial trauma — weight falling on shoulder from a height, being dragged inside a machine by the arm.
- Heavy fall with stretching of neck.
- Assault with a sharp object.
- Bullet injury — rare in India.
- Iatrogenic injury, either deliberate as in tumor surgery involving nerve roots or accidental while

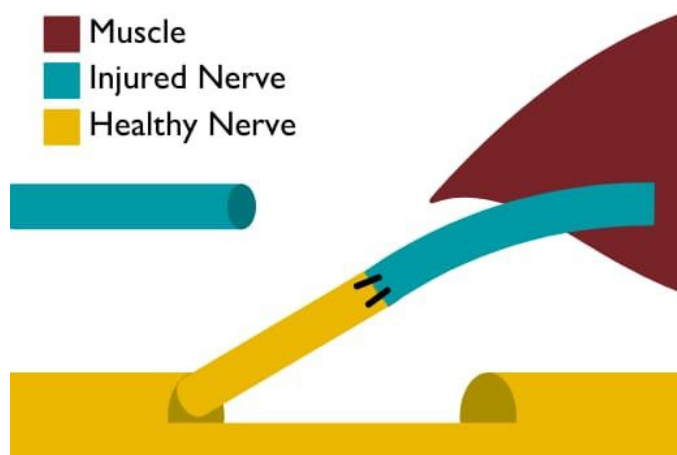
operating in the posterior triangle of the neck.

The pathophysiology of the common cause i.e. numbers 1.2 and 3 mainly involves traction on the plexus caused by an abnormal neck shoulder angle while the person is being thrown from the vehicle after the impact. If the shoulder is in adduction at the time then the upper plexus is affected involving the C5C6+/-C7, with simultaneous abduction of the shoulder and the stress is directed to the lower plexus i.e., C8T1 roots. If the transfer of momentum is massive due to the high combined velocity of the

- Imaging – X-Ray, MRI

Indication for Surgery and Timing.

Any brachial plexus injury which has not shown substantial spontaneous recovery in 3 months deserves to be explored. Timing is crucial due to the eventual loss of neuromuscular end plates at 20 to 24 months after denervation. If there is global palsy with MRI proven pseudomeningocele showing pre ganglionic avulsion type of injury then no delay is justified. Operation can be performed in days or weeks to get the maximum out of any possible nerve transfers. In partial injuries



two vehicles involved, then all roots can be damaged resulting in a flail upper limb. The latter is unfortunately far too common, accounting for almost 50%.

Patient evaluation Consists of:

- A detailed history and noting the date of injury
- Complete clinical examination
 - a. Muscle charting and note muscle wasting
 - b. Sensory charting—note dry skin
 - c. Noting associated trauma like fracture clavicle
 - d. Checking radial pulse for sub-clavian artery injury
 - e. Horner's sign
- Detailed electrophysiology report

especially of the upper plexus, a maximum period of 3 months is worthwhile to look for improved CMAP's of donor nerves and resolve the neuropraxia part in functioning roots. The best window is in the first three months and the next in the subsequent 3 months. After that results of proximal nerve repairs are less than satisfactory, although distal nerve transfers and free functional muscle transfers are possible. Age too impacts results. Young patients at or around 20 years show rapid recovery with higher gain of strength. People over 40 are thought to show reduced results; however, they still show adequately good results to justify surgery at any age unless medical factors make the person unfit for reconstruction.

Broadly surgery for these is di-

vided in two broad categories:

- **Surgery for nerve repair**
- **Secondary procedures**

Whenever feasible depending on timing, surgery for nerve repair takes precedence over all other procedures since time is of the essence. As soon as other injuries are dealt with primarily the patient should have the earliest possible nerve repair.

Secondary procedures are done after nerve repairs or in very late cases as a substitute to restore function. Either way all patients can be offered some treatment at all stages.

Surgery of the nerves

Broadly divided into:

- Intraplexal repair
- Extraplexal repair
- Distal nerve transfers
- Contralateral C7 transfer.

Quite often a combination of these may be offered.

Salvage procedures are offered in late cases or cases where nothing is feasible

- Tendon transfers using available muscles.
- Trapezius transfer to stabilise shoulder.
- Shoulder and wrist arthrodesis to improve posture.

• Free Functional muscle transfer—can always be attempted as the donor muscle is uninjured and has never been denervated.

Conclusions

- All patients with brachial plexus injury need early referral to a person specializing in treating it.
- Patients get better results with earlier referral.
- All patients can be offered some modality of treatment irrespective of time of referral.
- No patient must be abandoned without offering treatment and rehabilitation.

HAZARD IDENTIFICATION & RISK ASSESSMENT(HIRA)

HIRA (Hazard Identification & Risk Assessment) is offering a systematic method for evaluating work-related hazards and risks. Moreover, it helps organizations to frame comprehensive metrics for identifying hazards and implement-



Process of HIRA

ing risk-management strategies.

Purpose of HIRA

- It helps organizations recognize all those factors that can cause injuries to workers.
- The assessment determines potential threats and opportunities to evaluate their severities and address them accordingly.

- It assesses existing controls and safety measures in the management system to understand their effectiveness.

The assessment recommends ISO 45001 controls and measures to manage the potential hazards.

HIRA Analysis

The assessment recommends ISO 45001 controls and measures to manage the potential hazards.

Impact						
How severe would be the outcome be if the risk occurred?						
Probability (Likely hood) What is the probability the risk will happen?		Insignicant 1	Minor 2	Significant 3	Major 4	Severe 5
	5: Almost Certain	Medium 5	Moderate 10	Moderate 15	High 20	High 25
	4: Likely	Medium 4	Medium 8	Moderate 12	Moderate 16	High 20
	3: Moderate	Low 3	Medium 6	Medium 9	Moderate 12	Moderate 15
	2: Unlikely	Low 2	Low 4	Medium 6	Medium 8	Moderate 10
	1: Rare	Low 1	Low 2	Low 3	Medium 4	Medium 5

- Likelihood assessment is the methodology used to estimate the frequency or probability of occurrence of an incident. Estimates may be obtained from historical incident data on failure frequencies.

- Impact: Risks arising from the hazards are evaluated for its tolerability to personnel, the facility and the environment.

Risk assessment is done by multiplying the probability score with impact score which shows the level severity of hazard identified.

Answer for the June Safety Puzzle:

ACROSS:

1. BROWN
2. GRIEVANCE
3. NEAR MISS
4. HAZMAT BOX
5. CULTURE
6. SIX
7. CARBON DIOXIDE
8. NEUTRALIZE

DOWNWARD:

9. ERGONOMIC
10. NON-MAGNETIC
11. PASS
12. YELLOW
13. ORANGE
14. SAFETY
15. CAROTID

PUZZLE CONTEST WINNERS:



First Prize
Shaji H.
Laundry Service



Second Prize
Hasbiya Khaleel A.
Lab Technologist



Third Prize
Beena John
Nursing Supervisor

RESEARCH & ACADEMIC ACCOMPLISHMENTS

The Research Advisory Board (RAB) of IQRAA Centre for Research and Development (ICRD) under IQRAA International Hospital and Research Centre (IIHRC) has been formed. The first Research Advisory meeting took place on May 31st. The RAB is composed of

Sl. No	Name	Role	Organization
1	Dr. Feroz Aziz	Chairperson	Iqraa Hospital
2	Dr. Vajid NV	Convenor	Iqraa Hospital
3	Dr. Anver P.C.	Member	Iqraa Hospital
4	Dr. Javed Ahammed	Member	Iqraa Hospital
5	Dr. Anwar Marthya	Member	Iqraa Hospital
6	Dr. Prathosh Gangadharan	Member	Iqraa Hospital
7	Dr. Jyotish Gopinathan	Member	Iqraa Hospital
8	Dr. Shamsudeen M	Member	Iqraa Hospital
9	Dr. Shihabudheen P	Member	Iqraa Hospital
10	Dr. Sreejith Raveendran	Overseas Member	Teesside University, UK
11	Dr. Uma V. Sankar	Member	Aster Medicity, Kochi
12	Mr. Raouf UK	Member	Iqraa Hospital



the following members:

IQRAA Centre for Research and Development (ICRD) recently hosted a two-day in-person workshop titled "Hands-on Training in Clinical Research: Methodology and Data Analysis" in collaboration with Achuta Menon Centre for Health Science Studies, Sree Chitra Thirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum on June 11th and 12th 2024. The workshop saw the participation of 30 professionals, including doctors, clinical pharmacists, laboratory practitioners, research scholars, and public health experts. A distinguished team, led by Prof. Biju Soman, Professor and Head at AMCHSS, SCTIMST, Trivandrum, served as resource persons, providing valuable insights and training to the attendees.



Total No. of Patients : 214
Total amount spent : 17, 38,818

Cardiology	-	15
Cardio Vascular Thoracic Surgery	-	1
Critical Care Medicine	-	3
Surgical Gastroenterology	-	8
Gastroenterology	-	5
General Medicine	-	32
General Surgery	-	21
Haematology	-	2
Neonatology	-	7
Nephrology	-	35
Neurology	-	2
Obstetrics and Gynaecology	-	5
Oncology	-	2
Orthopedics	-	19
Paediatric Surgery	-	6
Plastic and Reconstructive Surgery	-	7
Pulmonology	-	4
Spinal Surgery	-	2
Urology	-	13
Vascular and Endovascular Surgery	-	5
Vascular and Interventional Radiology	-	5
Neurosurgery	-	15

AWARDS & ACCOMPLISHMENTS



The department of critical care and clinical pharmacy at IQRAA International Hospital and research centre conducted module 1- ICCPS (IQRAA critical care clinical pharmacy summit): Infectious Disease on June 29, 2024.



Dr. Shihabudheen P., Critical Care Physician, has secured the Diplomateship in Infectious Diseases from the The Royal College of Pathologists, UK.



Dr. Muhammed Thoyyib, General Medicine Physician, has received the Young Innovative Diabetologist award at the JPEF Diabetes Conference held at Trivandrum.

DOI: 10.15633/jfrs/2024/v11i1/44792
ISSN (Print) : 2349-8897
ISSN (Online) : 2350-1006

Knowledge, Attitude and Practice (KAP) Pertaining to Millets Among Nutrition Practitioners in Kerala

Sripriya Shaji¹, Fathimath Suhaila², Fida Jabir³, Jothi James⁴, Leena Saju⁵, Manju P. George⁶, Nissimol Jose⁷, Rashmi H. Poojara⁸, S. Sindhu⁹ and Sherin Thomas^{10*}

¹Counselling Psychologist and Nutritionist, SriSha Counselling, Kozhikode – 673304, Kerala, India

²Dietitian, EMS Memorial Co-operative Hospital and Research Centre, Perinthalmanna, Malappuram – 679322, Kerala, India

³HOD, Dietitian, Iqraa International Hospital and Research Center, Kozhikode – 673017, Kerala, India

⁴Dietician and Counselor, Government Taluk Hospital, Feroke, Calicut – 673631, Kerala, India

⁵Group Manager Clinical Nutrition, KIMS Health, Trivandrum – 695029, Kerala, India

⁶Department of Clinical Nutrition, VPS Lakeshore Hospital, Kochi – 682040, Kerala, India

⁷Senior Dietitian, MOHAM hospital, Eramalloor, Alappuzha – 688537, Kerala, India

⁸Department of Home Science, St. Teresa's College, Ernakulam – 682011, Kerala, India

⁹Senior Dietitian, EMC Hospital, Kochi – 682028, Kerala, India

¹⁰Department of Clinical Nutrition & Group Manager, Aster MIMS, Kozhikode – 673016, Kerala, India
indiaxcommunitynutritionforum@gmail.com

Abstract

Millet is underutilised nutrient-rich grains with the potential to combat malnutrition. A lack of awareness regarding millets has prompted the initiative to observe, 2023 as the International Year of Millets. Key influencers for enhancing awareness regarding millet and promoting consumption will include healthcare professionals, primarily Nutrition practitioners. A study on the Knowledge, Attitude, Practices (KAP) of nutrition practitioners will provide insights regarding perspectives, which can translate as a crucial factor for promoting millet consumption in society. The study adopted was a cross-sectional survey with a validated questionnaire distributed online to nutrition practitioners in Kerala. The questionnaire assessed socio-demographic details, knowledge of millets, attitudes towards usage, and practices related to millet consumption. The KAP among nutritional practitioners indicates a disparity between attitude and practice, possibly due to availability and affordability. The study highlights the need for targeted interventions and educational programs to be designed based on the identified gaps and barriers to enhance millet adoption among dietitians and the general public in Kerala.

Congratulations, **Ms. Fida Jabir N**, Chief Dietitian, for her first publication. Ms. Fida has participated in the study entitled "Knowledge, Attitude and Practice (KAP) Pertaining to Millets among Nutrition Practitioners in Kerala". Journal - Indian Journal of Research in Food Science and Nutrition (vol 11(1), 25-31, January-June 2024)



Dr. Nikhila Thomas, Neurologist, has secured the Fellow of European Board of Neurology awarded by the European Board and Section of Neurology and European Academy of Neurology.