JAI PRAKASH NARAYAN APEX TRAUMA CENTRE,
ALL India Institute of Medical Sciences
Short-CV

Name: Dr S Arulselvi

Designation: Professor

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Special Interests: Trauma induced coagulopathy; Post trauma induced cognition, Post TBI Diffuse axonal injury; Fracture associated inflammatory, coagulation and immunological changes; Risks for Osteoporosis, Degenerative disc disease

Fellow of Academies: Member of the cytometry society of India, Indian association of Haematology and blood transfusion, Indian society for trauma and acute care, Indian association of pathologists and microbiologist; Life member of neuropathology society of India, Member of counselling committee for NMC PG courses

Research experience:

Ongoing (as PI)

1. TRACE-TBI: Transcriptomic and Genomic Analysis of Acute Cerebral Edema Following Severe Traumatic Brain Injury (ICMR Project ID IIRPIG-2025-01-02256)
2. Study of association between saliva and blood biomarkers in cognitively impaired pediatric mild head injury patients.
3. Study of Vitamin D receptor (VDR) gene polymorphism and Vitamin D deficiency in North Indian patients with Intervertebral disc (IVD) Degeneration
4. Integrative Whole-Genome and Morphometric Profiling for Digital Twin–Based Prognostic Modelling in Severe Traumatic Brain Injury
5. Study of Gut Microbiome Alteration in Post-Menopausal Women with Osteoporosis A Pilot Study

Completed (as PI):

1. Development of point of care Smartphone based PT/INR Test to simplify, hasten the identification of patient's coagulation status and its comparison with conventional coagulation method
2. Study of Endothelial market Syndecan in the peripheral blood of severe Traumatic Brain Injury (TBI) patients and its correlation with TBI induced coagulopathy and immediate outcome
3. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation
4. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate traumatic brain injury (TBI) induced cognitive impairment
5. Evaluation of microRNAs (miRNA) as a marker for bone healing in osteoporotic traumatic proximal femur fractures: Pilot study (Ref. No. IESC-336/01.07.2016)

6. Identification of procoagulant markers in traumatic brain injury patients and their role in the pathophysiology of early trauma induced coagulopathy (ETIC)
7. Study of coagulation and inflammatory markers in patients having posttraumatic fracture shaft of femur
8. Paroxysmal Sympathetic Hyperactivity (PSH) and its role in outcome in severe traumatic brain Injury
9. Study of novel chemokine RANTES (Regulated upon Activation, Normal T cell Expressed, and Secreted) levels in plasma, cerebrospinal fluid and contused brain tissues as a marker of immune activation in Traumatic Brain Injury (TBI) patients" (Code No. I-686)
10. 'Evaluation of Laboratory markers to assess post platelet transfusion response in Thrombocytopenia Traumatic Trauma Patients' ICMR [RFC No (P-11) NCD-Ad-hoc 64/2014-15]
11. Identification of novel circulating procoagulant microparticles in traumatic brain injury patients and their involvement in pathophysiology of Trauma Induced Acute Coagulopathy
12. Utility of novel coated platelets as a marker for early prognostication of neurocognitive impairment following traumatic brain injury
13. Study of platelet dysfunction in trauma patients requiring platelet transfusion
14. Association of GRP78, Zinc, Iron and vitamin C levels in patients with covid 19 and the occurrence of Mucor mycosis
15. Evaluation of Coagulation status among North Indian Blood Donors using Thromboelastography and conventional methods.
16. Evaluation of early prediction markers of DIC in trauma patient
17. Coagulation profile in Isolated Head injury patients.
18. Evaluation of monitor 100 in measurement of erythrocyte sedimentation rate
19. Association of cytokines – IL 6, IL 10, IL 18 and TNF α in acute coronary syndrome.

10 Recent publications:

1.Albert V, Subramanian A*, Prakash S, Trikha V, Kumar A, Malhotra. Differential MicroRNA Expression in Osteoporotic and Non-Osteoporotic Trauma Patients: A Potential Biomarker Approach for Fracture Risk Assessment. Indian Journal of Orthopaedics. 2026.

2. Krishna, Aparna; Chaurasia, Rahul Sinha, Tej Prakash, Subramanian, Arulselvi*. Predicting massive transfusion and mortality in severely injured patients presenting to the emergency of a level 1 trauma center from the Indian subcontinent. *Asian Journal of Transfusion Science:* 10.4103/ajts.ajts_84_25, February 04,2026

3. Venencia Albert, Shweta Kedia, Arulselvi Subramanian*****. A Comprehensive Review of the Brain–Gut Microbiota System in Traumatic Brain Injury: Mechanisms, Outcomes, and Emerging Interventions. Indian J Neurosurg 2025;14: 103–110.

4. Venencia Albert , Arulselvi Subramanian* , Hara Prasad Pati . Impact of Early Microparticle Release during Isolated Severe Traumatic Brain Injury: Correlation with Coagulopathy and Mortality. Neurology India, 2024, 72(2), pp. 285–291

5. Mohanty D, Patidar G, Kumar A, Pandey H, Subramanian A, Chaurasia R. Random Donor Platelet Concentrate's Quality Analysis: Overnight Holding Effects of Whole Blood and Buffy Coat. Indian Journal of Hematology and Blood Transfusion. 2025

6. Sehgal T, Mukhopadhyay T, Mishra C, Kumar A, Subramanian A, Agrawal D, Menon G. Rapid Thromboelastography Identifies Coagulopathy and Predicts Poor Outcomes in Severe Traumatic Brain Injury. Cureus. 2025 Jul;17(7):e87710. doi: 10.7759/cureus.87710. e Collection 2025 Jul. PubMed PMID: 40786332; PubMed Central PMCID: PMC12335745.

7.Mukhopadhyay T, Subramanian A*, Albert V, Kumar A, Pandey S, Pati H. Impact of platelet transfusion on outcome, clot dynamics, and platelet function in thrombocytopenic trauma patients. J Lab Physicians. 2024; 16:507-14. doi: 10.25259/JLP_27_2024

8.Tapasyapreeti Mukhopadhyay , Arulselvi Subramanian* , Venencia Albert , Anand Kumar, Tushar Sehgal , Sulekha Karjee , Harprasad Pati . Evaluating platelet concentrates by platelet indices, thromboelastography, and flow cytometry. Asian J Transfus Sci. 2024 Jul-Dec;18(2):197-202.

9.Hemlata Jangir; Govinda Balmuchu; Jhansi Lakshmi Mylapalli; Arulselvi Subramanian*; Sanjeev Lalwani. Spongiform leukoencephalopathy unveiled in an autopsy of a drug abuser. Autopsy and Case Reports, Vol 13 (2024) https://doaj.org/article/22633ec266b8428fa52f4212074f2c07

10.Meenakshi Sharma , Arulselvi Subramanian , Vaishali Suri , Purva Mathur , Shyam Prakash , Nabarun Chakraborty , Deepak Agrawal , R. M. Pandey , Anupuma Raina , Rajesh Malhotra and Sanjeev Lalwani* Myelin degradation, axonal changes and expression trajectories of glial cells stimulated by rapid head insult in humans to estimate approximate time elapsed since trauma. Egyptian Journal of Forensic Sciences (2023) 13;22