

IMPLEMENTING TRANSCRANIAL DOPPLER AS CONFIRMATORY TEST IN BRAIN DEATH CRITERIA

B.Y. Sheikh H.M. AlJehani

Taibah University, Madinah, Saudi Arabia

The determination of brain death has assumed importance for the ability to support vegetative functions for prolonged periods after brain death and for the need for organs donation for transplantation. The idea of utilizing transcranial Doppler (TCD) in the evaluation of cerebral circulatory arrest is not new but this has not been implemented routinely into brain death criteria evaluation protocol. To be able to prove this value we conducted a prospective analytic study over 12 months to evaluate on the specificity and sensitivity of transcranial Doppler wave forms in confirming brain death in unconscious patients. Sixty unconscious patients were included in this project. Underlying pathology for unconsciousness included: head injury, brain tumors, cerebrovascular accidents, and cardiac arrest. 86 % of the patients had reliable acoustic window that allowed accurate TCD evaluation. 93 % of the later group showed the characteristic cerebrovascular flow arrest presented by the to-and-fro oscillation on the TCD recordings. Interestingly, two patients initially showed full indication of brain death on clinical evaluation, showed normal TCD tracings. Both patients were given full management for their primary pathology, and both regained consciousness. This report confirms the high value of transcranial Doppler in confirming brain death. The investigators recommend for this modality to be incorporated as part of brain death criteria.