Introduction

Normal consciousness is determined by the presence of arousal and of awareness easily recognizable in healthy individuals who are fully awake and responsive, with whom physicians can easily interact and identify. Patients with severe motor or sensory impairments may be fully conscious, but recognizing this may be difficult. Identifying states of impaired consciousness, suspected when alertness or responsiveness is incomplete or inconsistent, is of great importance in making medical and ethical decisions ***(Wheeler et al., 2009).***

The physiology of arousal depends on stimulation of the ascending reticular activating system (ARAS) which transmits sensory information from the spinal cord and brain stem to the hypothalamus, thalamus, and cerebral cortex. Awareness is thought to have a less linear pathway arising from a network of connections between the cerebral cortex and the major subcortical nuclei ***(Zeman, 2001).***

Coma is a state where arousal to wakefulness and conscious awareness cannot be achieved despite sufficient stimulation. Depression in level of consciousness may exist at any level between the fully alert state and the unresponsive state and demands urgent evaluation and treatment. The level of consciousness usually determines the degree of urgency with complete unresponsiveness i.e. coma demanding the most immediate response. ***(Singer et al.,2005).***

However, other states of severely impaired consciousness or mimics must be differentiated from coma. These include brain death, the vegetative state, minimally conscious state, the locked-in state, and akinetic mutism ***(Wheeler et al., 2009).***

There are three possible mechanisms that any disease can induce coma:

-Diffuse dysfunction of the cerebral hemispheres

-Localized abnormality of the ARAS

-Global CNS dysfunction. ***(Avner, 2006)***