

Talk and Die Syndrome: An Unending Mystery

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ABSTRACT

The Traumatic Brain Injury is one of the most leading cause of the increased mortality and morbidity rate in the current populace, which induces sub-dural hematoma, hence while talking itself the person will die and so nick named as 'Talk and Die Syndrome'. Interesting field in neurology, with very rare incidence rate and CT scan plays a golden role in the diagnosis of Traumatic Brain Injury.

Key Words: Talk and die syndrome, Epidural hematoma, Traumatic brain injury, Natasha case, Treatment.

INTRODUCTION

Talk and Die syndrome is usually caused by specific brain injury, epidural hematoma and fracture in the temporal lobe that is located near an artery in the head. Reilly *et al*¹ was the first person to use the word 'talk and die' to report a subset of patients who died with head injuries, initially thought to a mild traumatic brain injury.²

Half of the trauma related deaths were associated with Traumatic Brain Injury (TBI) which is a root cause to talk and die syndrome leading to severe morbidity and mortality in children and young adults³ and 10-13% of the pediatric mortality rate is due to the head injuries.⁴ National Health Service stated that TBI is a "silent epidemic" of the developing countries.⁵

"Talk and Die" syndrome is usually a delayed bleed like an epidural or subdural hematoma and is almost always fatal unless caught early. According to a study by an Australian trauma center reported that 2.6% of the head injury deaths involved "talk and die" syndrome.⁶ In a retrospective study investigated the incidence of all mild head injuries is 1.5% per year and 0.5-1 million patients with head injuries present in UK hospitals each year, of which majority of them are Minor Head Injuries (MHI) based on Glasgow Coma

Scale (GCS 13-15).⁶ About 27%-60% of the deaths are due to neurologic injuries in the trauma cases.^{7,8} The goal of this article is to summarize the interesting facts on the unending mystery of the rare condition talk and die syndrome along with its as clinical manifestation, diagnosis and management etc.

ETIOLOGY AND RISK FACTORS

Patients with minor head injuries accidentally deteriorate due to intracranial complications and this phenomenon is called "Talk and Die" syndrome. The causes that lead to this syndrome or traumatic brain injury are represented in Figure 1. Rather than a single extreme incident, repeated blows may also result in brain injuries.⁹ Mr. Graffagnino, Director of Duke University Medical Center Neurosciences Critical Care Unit, stated that "at first, a patient can appear normal" but they have a bleed in the brain due to increased pressure and start experiencing typical symptoms of a TBI.¹⁰

CLINICAL MANIFESTATIONS

The main complication and foremost primary clinical manifestation is severe

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Traumatic brain injury causes

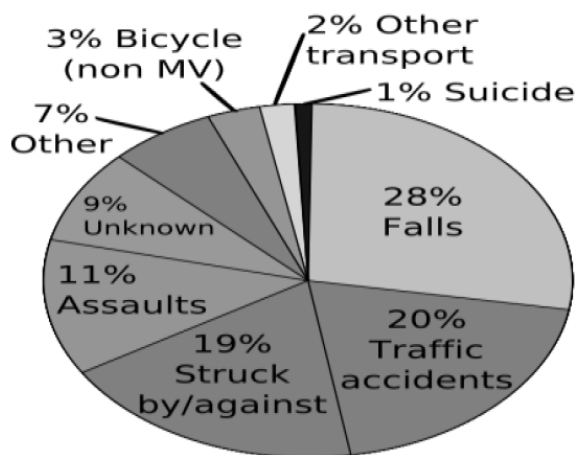


Figure 1: The causes of Traumatic brain injury.

headache followed by impaired speech and vision and then slip into coma¹¹ and the person may not have any symptoms at first, but later they may complain of severe headache, weakness and confusion.¹² Significance of intracranial mass lesions and raised Intra Cranial Pressure (ICP) in prognosis, outcome of patients who talked and deteriorated after head injury was first featured by Reilly's seminar paper in 1975.¹³ Moreover, intracranial hematomas and continued mass lesions lead to deterioration in TBI patients.^{14,15,16,17}

Ramiro *et al*¹⁴ conducted a study on 838 patients with severe head injuries, of them 211 (25.1%) patients talked at some time between trauma and subsequent deterioration into coma. Of these 211 patients, 89 (42.2%) had hematoma, 46 (21.8%) had epidural hematoma, 35 (16.6%) had subdural hematoma and 41 (19.4%) didn't have any focal mass lesions, therefore in talk and die syndrome, intracranial hematomas are continued to be more significant.¹⁸

CASE REPORT ON NATASHA

Ms. Natasha Richardson, a 45-year British born actress died on 18th March 2009, due to fall on a Canadian ski slope. When she fell, everything seemed okay and there was no sign of injury and she was talking normally after the fall but later in her hotel room, she started experiencing severe headache within an hour and she was rushed to hospital and she died in hospital. This condition is usually caused by head injury called epidural hematoma, in addition the newspaper nicknamed it as "Talk and Die Syndrome".¹⁹

DIAGNOSIS

A golden standard in evaluating patients after TBI is CT scan (a 3D X ray that provide cross-section images of anatomical structures) which would provide an indication of bleeding in brain²⁰ and it identifies both intra-axial hemorrhage and extra-axial hemorrhage²¹ and all individuals with cognitive dysfunction should consider CT scan.²² According to various authors, patients with severe head injury should undergo CT scan for every 24 h or 3-5 days following the TBI and patients with mild-moderate head injuries CT scan should be obtained before discharge²³ in addition forensic autopsy plays a crucial role to clarify the causal relation to the head injury.²⁴

MONITORING PARAMETERS

Reilly P L *et al*¹³ stated that evidence based guidelines existed for management, but they are not taken into account because of various reasons including variation between individuals, portions of the brain and variation within time. Different monitoring techniques like Transcranial Doppler, Jugular venous oxygen saturation and ICP waveform are used to focus on the therapeutic endpoints in individuals and targeting proper therapeutic management.

TREATMENT

Researchers claimed that some of agents can reduce evolution of brain injury and enhance the better patient outcome and developed an experimental model of brain injury which distinguishes the defusal of axonal injury by therapeutic manipulation. In addition to other studies, magnesium can improve outcome after diffuse brain injury.¹³ Further, the other treatment approaches include clot removal by surgery and manage with labetalol.²⁵ In a review conducted by J E Tan *et al*¹⁸ stated that advanced age was associated with a poorer outcome, consequently the outcomes could be improved with early identification and continuous monitoring.

CONCLUSION

The talk and die syndrome on early diagnosis could create a pathway to treat the victims soon after the injury and to reduce the mortality rate accordingly. Adequate CT scan facilities and guidelines to manage the condition will add value to the treatment.

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ABBREVIATIONS

CT scan: Computerized Tomography scan; **GCS:** Glasgow Coma Scale; **ICP:** Intra Cranial Pressure; **MHI:** Minor Head Injury; **TBI:** Traumatic Brain Injury.

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