Off the Radar, But Still on the Screen: MRI Fatalities Reported in Non-Medical Literature

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Introduction: Pediatric anesthesia departments are actively involved in creating sedation and anesthesia services in radiology departments (1). The MRI suite is considered a potentially hazardous environment and conflicting information exists in fatality reporting (2). Despite risks of MRI, there seems to be under reporting of mortality in the medical literature (3). We sought to determine the incidence of death in MRI reported in the non-medical literature.

Methods: An extensive search queried non-medical journals, legal, news and businesses sources using the LexisNexis Academic® Database. Searchable terms entered into all news category fields included "MRI," "death," "children" and "fatality." A secondary search was also performed with EBSCO® and NewsBank® databases with the same searchable items. No medical journals, databases or any other source were searched.

Results: We found 10 deaths reported in the non-medical literature (1993-2005); 3 pediatric and 7 adult patients. We categorized deaths into 4 groups: management (screening, not following safety guidelines), missile (flying metallic objects), monitoring (improper patient monitoring) and medical (over-sedation, drug-related incidence).

Deaths in MRI

Year	Source	Age (yr)	Country reported	Initial Event	Reason for Death	Category
1993	Chicago Tribune [2]	60	USA(IL)	Improperly assembled ventilator	Declining oxygen levels	Management
1993	Atlanta Journal & Constitution[1]	13	US (GA)	Drug allergy	Respiratory difficulties	Management
1997	Mainichi Daily News[1]	42	Japan	IV contrast given to wrong patient	Contrast allergy	Management
1998	KOMO News Four[1]	Adult [3]	US (WA)	Claustrophobic patient sedated	Over-sedation	Medical
1998	Hospital Litigator Reporter[1]	Adult [3]	US (MS)	Patient not screened for pacemaker	Medical problems related to pacemaker malfunction	Management
1999	Philadelphia Enquirer [2]	18-month-old	US (NJ)	Patient not monitored	Respiratory failure	Monitoring
2000	Businessworld (Philippines) [1]	61	Philippines	No recorded medical history, patient not monitored	Over-sedation	Monitoring/management/ medical
2002	Daily Telegraph[1]	Adult [3]	Australia	Patient not screened for	MI	Management

				pacemaker		
2004	The Express[1]	83	England	Patient screened, pacemaker not noted	MI	Management
2005	Massachusetts Lawyers Weekly [1]	12	US (MA)	Down's patient sedated	Cardiopulmonary arrest	Medical

Key: [1] is a source in LexisNexis© Academic
[2] is a source in NewsBank©
[3] indicates an adult patient of unknown age

Discussion: MRI-related fatalities have been reported in both the medical and non-medical literature. We found discrepancies of MRI-related deaths reported in the non-medical literature and the medical literature. This suggests a more frequent occurrence of MRI-related deaths reported in the non medical literature because litigation may be involved (4). Other contributing factors include an increased likelihood of breaching safety guidelines secondary to higher patient volume and sicker patients. Most MRI deaths seem preventable, thus deeper understanding of risk in MRI must be studied.

Refs:

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