

Delirium due to contrast toxicity after coronary angioplasty

Koroner anjiyoplasti sonrası kontrast toksisitesine bağlı deliriyum

Neurological complications appear to be very rare after coronary angiography, occurring at a rate of about 0.6% (1, 2). Delirium or acute confusion state is a transient global disorder of cognition.

A 64-year-old man was referred to our clinic for coronary angiography after a non-ST elevation myocardial infarction. Upon presentation, the patient was conscious, oriented and cooperative, without any chest pain. All vital signs were stable before the coronary procedure. The coronary angiography was performed and showed 99% stenosis of the major obtuse marginal branch (OM) of the circumflex (CX). In the same session, a 3.018 mm bare-metal stent was successfully implanted in the major OM subtotal lesion without peri-procedural complications. Iopromide 120 cc (Ultravist® 370, Schering AG) was used throughout the procedure. After the procedure, his vital signs and neurological status remained stable. Forty-five minutes after the procedure, the patient became agitated and started to sing nonsense words. He experienced disorientation to time and place, could not recognize relatives, and repeatedly requested to get out of bed. During the night, 12 hours after the first symptoms occurred, the patient experienced visual hallucinations. There were no focal neurological deficits. Laboratory values, blood gas analysis, and vital signs were checked again to determine the etiology of the patient's delirium. However, no abnormal findings were observed. Haloperidol (2.5 mg) was administered intravenously as initial treatment, and continued orally thereafter. Improvement was observed in the patient's state of delirium 24 hours after the onset of symptoms. A diffusion magnetic resonance imaging, performed after the patient was stable, did not show any abnormalities. Two days after the onset of agitation, the patient's mental status was returned to normal, although he had no recollection of his previous state of delirium.

Neurological complications of coronary angiographic procedures are uncommon, varied, and include central nervous toxicity caused by contrast agents, as well as, ischemic and hemorrhagic stroke (1-4). Contrast medium neurotoxicity is thought to be caused by the osmolality, lipid solubility, viscosity, and ionic properties of the contrast agent. The contrast medium opens tight capillary connections and passes the blood-brain barrier by increasing endothelial pinocytosis. Then reaches the cerebral cortex and affects the neuronal membrane (5). Delirium is a mental disorder of acute onset and fluctuating course which is characterized by disturbances in consciousness, orientation, memory, perception, and behavior. Delirium occurs often those who previously experienced dementia and appears to be independently associated with significant increases in functional disability, length of hospital stay, rates of admission to long-term care institutions, mortality rates, and healthcare costs. Moll et al. (5) described two patients who experienced severe agitation and hyperventilation after coronary angiography. The first and second cases occurred 20 minutes and 2 hours after coronary angiography, respectively. Both patients completely recovered after 12-24 hours. Our patient's symptoms began 45 minutes after the procedure. After 24 hours the symptoms of delirium were reduced, and after 48 hours, complete recovery was observed. Our patient received Iopromide, while the two cases reported by Moll et al. (5) received Ioversol. Both are types of nonionic contrast media with similar osmolality and similar iodine content. Benzodiazepines and haloperidol were used in the previous cases, while only haloperidol was administered to our patient. A small number of cases in the literature report patients developing contrast neurotoxicity and there is not enough information on patient management.

After coronary angiography, neurological symptoms and delirium may occur even without a cerebrovascular event. Temporary delirium due to contrast toxicity should be kept in mind by clinicians.

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Clinical analysis of neonates with congenital heart disease in the neonatal intensive care unit: a 5-year experience

Yenidoğan yoğun bakım ünitesinde doğumsal kalp hastalıklı yenidoğanların klinik analizi: 5 yıllık deneyim

Congenital heart diseases (CHD) are the most common form of major birth defects (1). The occurrence rate of CHD is approximately 4.5% of neonates admitted to the neonatal intensive care unit (NICU) (2). Data of 3334 neonates were scanned and 394 of them who had a complete two-dimensional and pulsed Doppler echocardiographic examination by a single pediatric cardiologist were included in this study. The neonates presenting with central cyanosis (<85% SpO₂ with pulse oximetry), heart murmur, feeding or breathing difficulties first underwent a neonatologist examination, then after a pediatric cardiologist examination with the clinical suspicion of CHD. Clinical characteristics of the neonates who had normal echocardiographic findings (named as group 1) were compared with the neonates with CHD (named as group 2). Congenital heart disease frequency was found to be 4% (136/3334) in our NICU population. The relative percentage of acyanotic (n=136) and cyanotic cardiac disorders (n=30) was 81.9% vs 18.1% respectively. There was no significant difference between group 1 and 2 in terms of gestational age, birth weight, birth length, head circumference, APGAR scores and