ANESTHESIA FOR PEDIATRIC CARDIAC CATHETERIZATION

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The field of diagnostic and interventional catheterization procedures in children with congenital heart diseases is in continuous evolution (1). Anesthesia and sedation for such patients presents a unique set of challenges (2). Cardiac catheterization laboratories are often regarded as hostile, both to the patient or the anesthesiologist in charge of sedation or general anesthesia. This is due to it’s remote site from the operating room, the darkness and the cramped space around the small patient with the X ray and other equipments, and lack of well trained personnel. Access to both patient and his airway are difficult thus resuscitation if needed difficult (3). Sedation can be given by the cardiologist in simple or diagnostic cases but a trained anesthetist should conduct sedation or general anesthesia in high risk cases as neonates and infants less than 5 kg, ASA status more than II, complex cyanotic lesions, and during interventional catheterization procedures (4). Cardiac catheterization may be done for diagnostic, electrophysiological studies, or interventional indications (4). For patients undergoing diagnostic catheterization the main goal of sedation or anesthesia is that the normal physiological conditions are least altered so as to obtain near normal measurements (4,5). During electrophysiological studies and therapeutic procedures - as radiofrequency ablation, pacemaker or internal cardiovertor placement- the most important demand will be the non-interference of the anesthetic drugs and technique with the cardiac normal or aberrant conduction system (6). If the indication for catheterization is interventional, the conduct of anesthesia will aim at ensuring stable hemodynamics while coping with the abrupt hemodynamic changes induced by the intervention. Relative immobility is essential in all cases. Interventional procedures include device closure of ASD, VSD, and PDA, balloon dilatation of valvular stenosis or aortic coarcitation (3,7).

References: