

CASE REPORT

Discovery of a congenitally corrected transposition of the great arteries during the pre-anesthesia visit

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Background. Congenitally corrected transposition of the great arteries is a very rare congenital heart defect which often remains undetected for several decades of life. We here report on a 52-years old woman without prior history of heart disease, presenting a total atrioventricular block during the pre-anesthesia visit in preparation of a coelioscopic cholecystectomy. The diagnostic work-up identified a congenitally corrected transposition of the great arteries. Although the patient had no symptoms prior to or during the visit, we show here utility of an electrocardiogram during pre-anesthesia work out in a patient over 40 years. Anesthesiologists should be aware of this rare pathology, because they may be facing it during their professional life.

1. Introduction

The congenitally corrected transposition of great arteries represents 0.5 % of all congenital heart disorders. In many cases, patients suffering from that pathology are asymptomatic for several decades of life. We report the case of a 52 year-old woman, in whom a complete atrioventricular block was discovered during pre-anesthesia consultation in preparation for a coelioscopic cholecystectomy.

2. Patient information and clinical findings

The patient was a 52-years old woman. She had 3 children and worked as tax collector. Patient history lacked previous significant illnesses, and in particular structural heart or lung diseases. Her cardiovascular risk factors were tobacco (3 cigarettes a day) and dyslipidemia. The patient described herself as sportive (swimming 3 times a week). The only symptom was a sensation of thoracic compression that could arise during the night. Her past anesthetic history included uneventful hysterectomy under general anesthesia and 3 uneventful childbirths by vaginal delivery under epidural analgesia. Clinical examination only noticed overweight (BMI=28). The cardiopulmonary examination was normal. Routine electrocardiogram (ECG) showed a complete atrioventricular block. The atrial rate was 70 bpm and the dissociated ventricular response was occurring at a rate of 48 bpm. QRS complexes were enlarged to a length of 106ms.

3. Diagnostic work out

ECG findings motivated a cardiologic consultation. Trans-thoracic echocardiography showed a morphologically right ventricle in systemic position with a tricuspid insufficiency. It also showed a moderate left atrial dilatation. The Holter ECG brought evidenced the third degree atrioventricular block, with a ventricular response at 58 bpm during the day and 44 bpm during the night. The lowest recorded heart rate was 33 bpm. Magnetic resonance imaging of the heart evidenced the congenitally corrected transposition of the great arteries. The morphologically right ventricle had a good function. The tricuspid valve (in mitral position) presented a significant insufficiency. No other abnormalities were present.

After a multidisciplinary discussion and expert consultation, and in face of the lack of symptoms, it was decided to proceed to the elective cholecystectomy before any management of the cardiac problem.

4. Therapeutic. Intervention

The coelioscopic cholecystectomy was performed under balanced general anesthesia using 1 µg/Kg of sufentanil, 1 mg/Kg of linisol, 2.5 mg/Kg of propofol, 0.5 mg/Kg of ketamine for induction, and sevoflurane for maintenance of anaesthesia was assured by sevoflurane. The patient was equipped with a central venous catheter and pacemaker introducer, as well as with invasive blood pressure monitoring. The resuscitation cart was kept in the operative room for the duration of the procedure. Endocarditis prophylaxis was given in the form of 2 g of amoxicilline 2g, that was received orally one hour before surgery. The coelioscopic cholecystectomy with low flow worked through normally. The

Comment [BV1]: Any muscle relaxant ?

patient was admitted to the intensive care unit for a 24 hour close monitoring. She presented a bradycardia at 27 bpm during the night, that was asymptomatic and did not require any medical intervention.

5. Follow up and outcome

The patient was discharged from the hospital at day 3 with good evolution. The transit was normal. Regarding her congenital corrected transposition of the great arteries, the patient has benefited from a pacemaker implantation and tricuspid valve replacement. She takes actually coumadine at the dose of 5.5mg with regular INR control (objective INR=3.5). The cardiologic follow-up is satisfactory. The patient has a normal lifestyle. She is still working as usual and continues to practice swimming.

Comment [BV2]: When ?

6. Discussion

The congenitally corrected transposition of the great arteries represents a very rare congenital heart defect. It is characterized by an atrioventricular discordance on the one hand, and a ventriculoarterial discordance on the other hand. Besides a switch of the great arteries, the physiological sequence of pulmonary and systemic circulation is maintained, due to a simultaneous inversion of both ventricles, that is, congenitally corrected. Our patient was unknown for cardiac reasons before. The apparition of an atrioventricular block at the age of 52 years led to the diagnosis. The factor that limits the absence of symptoms is the systemic function of the right ventricle. Most of those patients finally become symptomatic, mainly upon the occurrence of atrial fibrillation, heart failure, or complete atrioventricular block. No recommendation for the anesthetic management of those patients exists. A multidisciplinary approach seems reasonable, as well as intensive care unit postoperative observation after elective surgery. Prevention of most common complications is recommended, including endocarditi prophylaxis, prevention of hypoxemia, and detection of heart rhythm disorders..

7. Consent

Oral informed consent was obtained from the patient before writing this case report.

8. References

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