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Massive postoperative pulmonary embolism in a young woman under oral contraceptive Yasmin® : The value of preoperative anesthetic visit

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Abstract:	We describe the case of a young woman with a history of active tabagism and on oral contraceptive Yasmin®, presenting in the Post-Anesthesia Care Unit (PACU) a cardiac arrest due to a massive pulmonary embolism following a Transforaminal Lumbar Interbody Fusion surgery. The patient showed preoperatively several risk factors of a deep venous thrombosis. This case-report and other similar publications in the literature emphasize the value of preoperative anesthetic visit and eventual quitting of certain oral contraceptives in specific cases.

Abstract : We describe the case of a young woman with a history of active tabagism and on oral contraceptive Yasmin®, presenting in the Post-Anesthesia Care Unit (PACU) a cardiac arrest due to a massive pulmonary embolism following a Transforaminal Lumbar Interbody Fusion surgery. The patient showed preoperatively several risk factors of a deep venous thrombosis.

This case-report and other similar publications in the literature emphasize the value of preoperative anesthetic visit and eventual quitting of certain oral contraceptives in specific cases.

Key words : Deep venous thrombosis, pulmonary embolism, combined oral contraceptive, Yasmin®, preoperative anesthetic visit.

CLINICAL CASE

A young 45-years old woman with a history of hypothyroidism, overweight (BMI 27.9 kg/m² with 75 kg for 164 cm) and active tabagism (20-60 cigarettes per week) presents at the neurosurgery consultation for incapacitating lumbar radicular pain. The lumbosacral spine tomodensitometry shows severe spinal L5-S1 and right foraminal L4-L5 stenosis and moderate left L4-L5 stenosis, due to a bilateral spondylolysis L4 and L5, an anterolisthesis L5 grade III and L4 grade I. In agreement with the patient and due to her functional limitation, the decision to perform a Transforaminal Lumbar Interbody Fusion has been made.

At the preoperative anesthetic visit, 8 days before the surgery, the patient complained of bilateral sciatic pain with normal leg flexibility. She had no other symptoms. She was on a thiazide diuretic, and on a combined oral contraceptive Yasmin® containing Ethinyloestradiol and Drospirenone. The cardiopulmonary examination revealed normal. No preoperative coagulation testing was realized as she showed normal values two years previously.

Upon arrival in the operating room, the patient is wearing compression stockings. The intervention takes place in the prone position. The surgery lasts more than 8 hours and is uneventful. At the end of the procedure, the patient is turned back into the supine position and extubated without any problems.

Six minutes upon arrival in the PACU, the patient shows a cardiac arrest. The cardiopulmonary resuscitation starts immediately, with a no-flow time equal to 0, uninterrupted chest compressions, endotracheal intubation, as well as arterial line and central venous catheter insertion. Return of spontaneous circulation is observed with a low-flow time equal to 25 minutes. However, the patient becomes very unstable, and despite vascular filling, a total dose of 10 mg of adrenaline and external cardiac massage, no effective circulation can be restored. A transesophageal echocardiography is then realized, showing a massive thrombus invading the right atrium and right ventricule.

The patient is transferred to the cardiac surgery operating room and cardiopulmonary bypass is initiated 76 minutes after the initial cardiac arrest. The thrombus is surgically removed. After the completion of the surgery and due to the impossibility to wean off cardiopulmonary bypass, the patient is put on a femoro-femoral extracorporeal life support. At this moment the patient shows clinical and biological signs of a disseminated intravascular coagulation, and necessitates massive transfusion and a neurosurgical revision for hemostasis in the left lateral decubitus.

During the cardiac surgery, the bilateral electroencephalogram (EEG) obtained by the cerebral monitor NeuroSense® remains isoelectric during 1 hour.

In the postoperative period an EEG and somesthetic evoked potentials are performed, showing absence of any cortical activity. In agreement with the family, the extracorporeal life support is stopped and a comfort care is established. The patient dies on the third postoperative day.

DISCUSSION

The occurrence of deep venous thrombosis has been associated with the consumption of combined oral contraceptive (1, 2, 3). The risk is even increased in the presence of other risk factors such as tabagism, obesity, coagulation abnormalities, family history, hypothyroidism (4, 5)…

In this regard, the oral Ethinyloestradiol and Drospirenone containing contraceptive Yasmin® has been the subject of several publications, suggesting an increased risk of deep venous thrombosis (6, 7, 8, 9) and pulmonary embolism (8, 10, 11, 12).

Moreover, its combination with tobacco consumption seems devastating (4).

However, other studies could not show any significant difference between oral contraceptives with or without Drospirenone with regard to the occurrence of deep venous thrombosis (13, 14, 15, 16).

Our patient suffered since several months from bilateral sciatic pain and was therefore limited in her daily physical activities.

Considering the huge thrombus discovered by the transesophageal echocardiography, it is more than plausible that she suffered from deep venous thrombosis before the start of the surgery. In the presence of active smoking, chronic Yasmin® intake, and a very limited physical activity, a preoperative doppler ultrasonography of the legs would have detected a deep venous thrombosis. On the other hand, discontinuation of the oral contraceptive and if possible smoking should have been discussed with the patient at the moment of the preoperative visit. These points are especially true in face of the type of surgery she was going to undergo.

CONCLUSION

This case-report emphasizes the value of preoperative anesthetic visit. In patients at high risk of deep venous thrombosis and undergoing major surgery, the discontinuation of oral contraceptives should be considered. A doppler ultrasonography can be justified to exclude the presence of a preoperative deep venous thrombosis.

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