Sudden death due to pulmonary thromboembolism in an hypertensive patient with large leiomyomata: A case report and review of relevant literature

The pathophysiology of venous thrombosis is classically attributed to alterations in one or more components of Virchow’s triad: hypercoagulability, stasis, and damage to the vascular endothelium. Deep vein thrombosis (DVT) may lead to pulmonary thromboembolism (PE), and the latter is culpable for many deaths annually in the United States. However, DVT as a complication of uterine leiomyoma has rarely been reported. We report a case of a fair, fatty, female in her fifties whose death was due to a large leiomyomata externally compressing the pelvic veins resulting in stasis and venous thrombosis leading to fatal PE. The association of large pelvic masses with venous thrombosis has clinical implications, since prophylactic surgery could be life-saving. Other findings in this patient were cholelithiasis and cardiomegaly with left ventricular hypertrophy. Leiomyoma is the commonest gynaecological tumour which usually regresses with age and rarely with thromboembolic phenomenon. However, the presence of this condition in a patient with high risk index for thrombus formation should necessitate the removal of the tumour in order to prevent sudden death from pulmonary thromboembolism.

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Introduction

Diverse complications have been reported in association with the growth and medical treatment of uterine leiomyomata. Infarction and necrosis may be common and incite complications from parasitic vascular attachment, pain and thrombosis. The rarity of severe complications in this situation warrants presentation of the following unique association. The sign and symptoms of uterine nodule, particularly when small, may be entirely asymptomatic. Symptoms depend on the location of the lesion and its size. Important symptoms include abnormal uterine bleeding, heavy or painful periods, abdominal discomfort or bloating, painful defecation, back ache, urinary frequency or retention, and in some cases, infertility. There may also be pain during intercourse, depending on the location of the fibroid. During pregnancy they may also be the cause of miscarriage, bleeding, premature labor, interference with the position of the fetus or obstructed labour.

While fibroids are common, they are not a typical cause for infertility accounting for about 3% of reasons why a woman may not be able to have a child. The majority of women with uterine fibroids will have normal pregnancy outcomes (Segars et al., 2014). In cases of intercurrent uterine fibroids in infertility, a fibroid is typically located in a submucosal...
position and it is thought that this location may interfere with the function of the lining and the ability of the embryo to implant. Also larger fibroids may distort or block the fallopian tubes.

Genetically leiomyoma association with fatty acid synthase has been reported in the research of Eggert et al. (2012). A familial leiomyoma syndrome such as Reed's syndrome that causes uterine leiomyomata along with cutaneous leiomyomata and renal cell cancer has been reported in studies of Tolvanen et al. (2012), Toro et al. (2003). This is associated with a mutation in the gene that produces the enzyme fumarate hydratase, located on the long arm of chromosome 1 (1q42.3-43). Inheritance is autosomal dominant.

Uterine leiomyoma (or fibroid) can be associated with secondary polycythemia and venous thrombosis, but there has been no report of associated intracranial venous thrombosis.

**Method**

We describe a case report of a pulmonary thromboembolism in a 57 year old woman who was diagnosed of hypertension for the past 12 years and a uterine fibroid diagnosed about 2 years prior to her demise in a non-smoking female with no history of malignancy or hormone use. She suddenly collapsed at home and died and full autopsy was conducted.

**Case report**

The patient collapsed at home and died on the way to casualty. She is a known hypertensive Patient for the past 12 years. She has been on Norvasc (amlodipine) at University of Calabar Teaching Hospital (UCTH) since October 2014. She had cardiovascular accident resulting in hemiplegia three years before her demise from which she recovered completely without any sequelae. Her blood pressure had been well controlled before her death. There is no associated dyspnea on exertion, paroxysmal nocturnal dyspnea or palpitation. Patient was a nurse, obese with increased risk of sedentary life style and family history of hypertension. The pathologic-anatomic summary was an obese lady with petechiae and ecchymosis on the upper chest wall and facial palsy. There was massive occlusion of the right pulmonary artery by multiple small emboli, cardiomegaly and left ventricular hypertrophy (1.7cm). Also seen is increased fluidity of blood, massive multiple uterine nodules and solitary thyroid nodule.

**Autopsy findings demonstrated in figures**

![Figure 1. (A) Anatomically distorted uterus with multiple sub serous uterine nodules. (B) Cut section shows a well circumscribed sub mucous nodule with a whorl appearance.](image-url)
Figure 2. (A and B) Right lung tissue showing massive occlusion of the right pulmonary artery and its terminal branches

Figure 3. (A) Solitary enlarged left thyroid nodule. (B) Cut surface shows a variegated appearance with multiple cysts

Figure 4. (A) Straw coloured pericardial effusion. (B) Left ventricular hypertrophy (1.7 cm)
FIGURE 5. (A) CUT SURFACE OF THE KIDNEY SHOWS CONGESTION.  
(B) CUT SURFACE OF THE GALL BLADDER SHOWING THREE PIGMENT STONES

References


