Objective
To report a rare case of a successful pregnancy with left ventricle non-compaction and establish the criteria for prenatal diagnosis.

Methods
A 37 year-old Para1 was diagnosed of left ventricle non-compaction (LVNC) at 32 years old, after a previous successful pregnancy without complications. Prior to the current pregnancy, the patient presented with a left ventricle ejection fraction (LVEF) of 44% and NYHA class II. Her medical treatment included 100mg acetyl salicylic acid (ASA) daily and Carvedilol. Significant family history included dilated cardiomyopathy in her mother.

Results
At the High Risk Pregnancy Unit in our centre, antenatal care begins at the 8th week of gestation. The patient’s previous treatment with ASA was continued until 32nd week and daily 40mg of Enoxaparin was introduced at 12th week after an extensive review of the literature. She attended antenatal visits with the obstetricians every 3 weeks. The patient remained clinically stable and with no complications throughout her confinement. Due to the patient’s disease and her family history, ultrasound assessments were carried out every 4 weeks after the 20th week of gestation, with special attention to fetal cardiac assessments. No morphological alterations were observed in these scans. Serial echographic examinations showed stable cardiac function. At 30th week, her LVEF was 38%, and a new onset mitral insufficiency and dilatation of the left auricle were detected, however she remained clinically asymptomatic. The patient remained physically active, but her mobility was restricted by an ankle sprain which occurred in the 34th week. Given the clinical stability, it was decided that she could carry on with the pregnancy until term (40 weeks) and an induction of labour would be arranged if not delivered then. Standard recommendations for cardiac patients were followed during the induction process and labour. Eventually, a healthy newborn was delivered vaginally.

Conclusion
Left ventricle non-compaction is a rare form of primary cardiomyopathy characterised by the abnormal persistence of the trabecular layer of embryonic myocardium. It usually presents with heart failure and arrhythmias and its symptoms might be aggravated by the physiological changes in pregnancy. Two third of the cases show a familial pattern and echocardiography is the standard diagnostic tool. In view of the embryonic origins of the disease, it is feasible to identify such cardiac abnormality in-utero. The affected fetuses could be identified by using the standard echocardiographic criteria for diagnosis in adults. In order to achieve this goal, fetal medicine physicians should be trained and be familiar with the the diagnostic cardiac images. Although a rare disorder, LVNC has significant morbidity and mortality, it is thus worthwhile to explore the possibility of prenatal diagnosis by setting certain standard criteria among experts. Fetuses deemed to be at high risk should have a detailed cardiac assessment in the search for LVNC.