

# Mechanical heart valves increase pregnancy risk

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The fact that mechanical heart valves increase risks during and after pregnancy, has been confirmed by data from the ROPAC registry presented for the first time today in an ESC Congress Hot Line session by Professor Jolien W. Roos-Hesselink, co-chair with Professor Roger Hall of the registry's executive committee. The registry found that 1.4% of pregnant women with a mechanical heart valve died and 20% lost their baby during pregnancy.

The Registry Of Pregnancy And Cardiac disease (ROPAC) is an ongoing worldwide registry that includes pregnancies in women with any type of structural cardiovascular disease. It is part of the ESC's EORP programme. Original data are presented today on [pregnancy](#) in women with a mechanical valve prosthesis.

Professor Roos-Hesselink said: "Cardiac disease is the leading causes of maternal mortality in both developed and developing countries. Pregnancy induces haemodynamic changes such as an increase of cardiac output, stroke volume and heart rate and demands for an adequate adaptation of the heart. While the normal healthy heart is able to adjust, a structural abnormal heart may be less capable to address these physiological changes, with subsequent increase of maternal and foetal morbidity."

She added: "Pregnancy induces not only a hemodynamic burden but also a hyper-coagulable state. We studied the effect of mechanical prosthetic heart valves on maternal and foetal outcomes. We also examined which

anticoagulation regimes were used and what impact they had."

From January 2008 until now, the ROPAC registry has enrolled more than 3 500 pregnant women with structural heart disease, aortic pathology or pulmonary hypertension from 132 centres in 48 countries. Data are presented today on pregnancy in the 212 women with mechanical prosthetic heart valves.

The researchers found that 1.4% of pregnant women with a mechanical heart valve died during pregnancy. Nearly 16% of women had a miscarriage before 24 weeks of pregnancy while 2.8% of women lost the foetus after 24 weeks. Haemorrhagic events occurred in 23% of women and thrombotic events in 6.1%.

Professor Roos-Hesselink said: "Pregnant women with mechanical valve prostheses are at particularly high risk of thrombotic complications, of which thrombosis of the mechanical valve is very serious and occurred in 10 patients (4.7%). They also have a significantly higher mortality (1.4%) during pregnancy compared to the other women with [heart](#) disease in the registry (0.2%)."

The researchers found that just 80% of women with a mechanical valve had a live birth. This was significantly lower than the proportion of live births in women in the registry with a tissue valve (98%) or with no prosthetic valve (98%).

A variety of anticoagulation regimes were used during the trimesters of pregnancy (

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