The risk of pregnancy in women with pulmonary hypertension

Review of cohort studies in the advanced pulmonary hypertension therapy era

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Objectives: Mortality risk associated with pregnancy among women with pulmonary hypertension (PAH) was reported to be 17–33% in the era of advanced PAH therapy. Since most risk assessments were based on case reports and case series prone to bias, we aimed to review pregnancy associated risk in women with PAH who chose to go through pregnancy albeit contraindication in current cohorts.

Methods: Literature search included: English language Publications after 1996, addressing the risk of pregnancy in cohorts of women with PAH, with clear definition of PAH and outcome.

Results: Of 193 papers found, 6 (307 women) met inclusion criteria. Among 95 women, in 5 studies reporting mortality, 8 (8.4%) died and one required heart-lung transplantation. Mortality rates ranged between 3.3% and 17% between studies. The lowest mortality rate was reported in a centre with the largest average case number/year (5), and the highest mortality rate in centres with the lowest average cases number/year (0.24). Three women died during pregnancy, one at delivery and 4 within 6 weeks of delivery. Death was due to right heart failure in 4, hypotension in 2 and sepsis in one woman. PAH therapy was missing or suboptimal in all patients who died or required heart-lung transplantation. The average week of delivery was 33.4 to 36.1 with 50-100% by cesarean-section. No neonatal mortality was reported.

Two studies differentiated mild and severe PAH. There were 30 woman with mild and 42 with severe PAH. Women with severe PAH had higher risk of cardiac complications, NYHA class deterioration and increase in pulmonary pressure compared to women with mild PAH. Severe PAH was also associated with earlier delivery, higher risk of cesarean-section and lower birth weight.

Conclusions: According to limited current data available, women with PAH choosing to complete their pregnancy have < 10% maternal mortality on average. Women with mild PAH have better maternal and obstetric prognosis. Limited center experience and suboptimal therapy may contribute to adverse outcome.