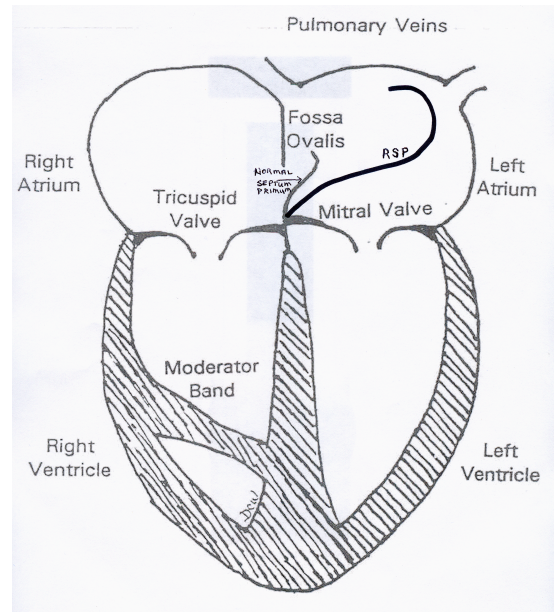


The Very Active Fetus, A Stretched-out but Normal Atrial Septum And Fetal Arrhythmias

The Redundant Septum Primum



A Redundant Septum Primum (RSP) is a normal variant typically seen in fetuses who are considered by their mothers to be very active. It can be seen as often as one in ten fetuses. That activity is not only fetal arm and leg movements, but also can include deep breathing practice movements where the diaphragm is exercised and the liver is “scrunched” with the breathing motion. This scrunching results in and can be observed as a rapid streaming of blood into the heart from the liver that is aimed at the atrial septum, such that the very thin flap of tissue can stretch out, resembling a spinnaker sail or a windsock.

This thin, cup-shaped tissue partially divides the fetal atria or filling chambers early in embryonic development. The atria are 2 of the 4 chambers of the normal heart. This tissue will cover the hole known as the foramen ovale (or fossa ovalis) after birth. In the fetus, the foramen ovale allows oxygenated blood from the placenta to flow into the left side of the heart and to the aorta and fetal head. We can see with ultrasound that the normal flow across the foramen ovale causes the septum primum tissue to move with the flow into the left atrium. If that tissue is stretched out, it can touch the sides of the left atrial walls.

A redundant septum primum (RSP), also known as the flap of the foramen ovale, an aneurysm of the foramen ovale or sometimes an atrial septal aneurysm (ASA), has been associated with fetal arrhythmias where the heart rate is heard as somewhat irregular or with early beats or as “skipped beats.” These are premature atrial contractions or PACs. We have seen with ultrasound an early or skipped beat coming as a result of the RSP touching the left atrial wall. When we detect extra heart beats in the fetus or an the RSP during a fetal echocardiogram, we recommend that mom reduces or stops her use of caffeinated food and skin care products including coffee, tea, dark soda, chocolate and lotions with cocoa butter. Often, we will recommend that she be seen and the baby’s heart be listened to for several minutes in the office. Single extra beats are rarely a problem, but frequent extra or skipped beats or very rapid beats may be dangerous and then we will recommend frequent checking of the baby’s heart rate.

Remember: a redundant septum primum can be seen during ultrasound of the fetal heart. When the rest of the cardiac anatomy appears normal, the RSP will probably pose no problems to the fetus. PACs are frequently associated with RSP, but tend to resolve after stopping the use of caffeine or after delivery when the RSP will close the foramen ovale

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