Reviewer's report

Title: The search for valved conduit tissue grafts for adults (>22mm): An ultrasonographic study of jugular vein diameters of horses and cattle

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Reviewer: Jesus Herreros

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Valve conduit tissue grafts are used for right ventricular outflow tract reconstruction in the repair of complex congenital heart defects, to treat long-term after-effects of congenital cardiopathies surgeries like pulmonary insufficiency after the correction of the Tetralogy of Fallot, and for pulmonary valve replacement during the Ross procedure. The availability of suitable pulmonary homografts is limited and several groups use bioprosthesis bovine pericardium or porcine aortic valves.

Recently it has been launched to the marketed (Contegra. Medtronic Inc) a conduct of heterologous bovine jugular vein with a tri-leaflet venous valve and a natural sinus slightly larger in diameter than its lumen. This conduit cited by the authors in the bibliography can be supported (model 2005) or non supported (model 200), implanted by sternotomy or by a less invasive approach through the femoral vein.

As the authors say, these conduits are not commercialised with a diameter superior to 22 mm. However, a big percentage of the patients who can benefit from it are adults with pulmonary valvular insufficiency in a long-term after Ross operation or correction of Tetralogy of Fallot. That's when the necessity of developing conduits of a bigger diameter arises and the interest of this paper. Another problem susceptible of being developed in an investigation project is being able to implant valve conduits with diameter bigger than 22 mm through a previous percutaneous approach like Contegra conduits smaller than 22 mm. Several groups are focusing their researchs in implanting the valve conduits of diameter bigger than 22 mm through right ventricle by monitoring.

The authors study the diameter of the jugular vein in an equine population and the correlation with the body size. The methodology is simple and well set. The results are clearly expressed and supported by two tables and one figure in three sections. The discussion is well set and supported by a well-selected bibliography. The conclusion is right.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:
I declare that I have no competing interests