central shunt and clipping of duct, but required AD recanalization later. During intervention he developed a thrombus in the stent, which was treated successfully using thrombolytic treatment. The third patient had PA and VSD. The arterial duct originated from the left subclavian artery and his duct spontaneously closed in spite of prostaglandin infusion. Aortography showed pulmonary atresia, right-sided aortic arch and barely patent AD. He had AD recanalisation. During the procedure he had severe desaturation and bradycardia requiring resuscitation for two minutes. All infants had successful arterial duct recanalization and stenting. They were clinically stable during follow up waiting for subsequent procedure.

Conclusion: Arterial duct recanalization and stenting is a feasible and effective procedure in selected cases, and its risks are treatable.

http://dx.doi:10.1016/j.jsha.2015.05.242

62. Recombinant tissue plasminogen activator in neonates: Potential risks and benefits

Milad Elsegaier, M.O. Galal, Muhammad A. Khan, Tarek Momenah

Life-threatening intra-cardiovascular thrombi are rare in neonates. Recombinant tissue plasminogen activator (rTPA) which stimulates fibrinolysis, is used in adults to facilitate thrombus resolution. Its use along with heparin in neonates remains controversial because of potential risk of serious bleeding.

Our aim was to present our experience with the use of thrombolytic agents in seven neonates and young infants.

Methods and patients: All neonates and one 45 days old infant, between Jan. 2008 and Jan. 2014, with intracardiac and/or intravascular thrombi who were treated either by thrombolytic agents or by heparin alone were included.

The following factors were collected: demographic data, primary diagnosis, and site of thrombus, risk factors, method of diagnosis, route and duration of treatment, dosage of thrombolytic and/or anticoagulation agent, complications and outcome.

Results: Seven patients were identified. Age range was from five days to 45 days (median age 12 days), median weight 2.9 kg (range 0.9–3.8 kg). The thrombi were diagnosed by echocardiography in five cases and in two by angiography. All patients had life threatening thrombi; four were treated with rTPA and heparin infusions with complete dissolving of the thrombi within short time (2–96 h) without complications. The other three patients (two were premature, 28 and 34 weeks of gestation, and the other had deranged coagulation profile) were treated with unfractionated heparin due to fear of bleeding. The thrombus was dissolved in the premature babies and embolized in the other one, which led to his death.

Conclusion: Our small case series, confirmed the effectiveness and safety of the used dosage of intravenous infusion of recombinant tissue plasminogen activator in neonates with life threatening thrombi.

http://dx.doi:10.1016/j.jsha.2015.05.243

63. Pulmonary atresia with intact ventricular septum, associated with intracranial calcifications and left parietal hemangioma (Sturge–Weber Syndrome)

Muna Babiker, Abdulrahman S. Almoukirish, Mohammed Omar Galal

Case report: Neurocutaneous disorders are characterized by skin lesions (port wine stain, hypopigmented patches) associated with intracranial features (ipsilateral leptomeningeal angiomas, intracranial calcifications and subsequent seizures). Some of these patients will also have ophthalmological findings. These disorders are occasionally accompanied by congenital heart disease. Example: PHACE syndrome which is associated with aortic coarctation. On the contrary, Sturge–Weber syndrome, apart from one single case report, is usually not described with congenital heart disease. In the mentioned case report, 13 year old female had along with this syndrome, pulmonary atresia with ventricular septal defect. As the author of this case report questioned whether this might be a new association, we would like to report our patient.

This is a 14 months old boy with pulmonary atresia/intact ventricular septum along with intracranial calcification, seizures along with strabismus and tunnel vision. Clinical findings were similar to Sturge–Weber syndrome, though cutaneous features were not present. Brain CT angio with contrast was diagnostic for Sturge–Weber and showed calcifications as well as left parietal hemangioma.

As far as we know, this specific association has never been reported before and might be a new constellation as suggested by Huseyin Tan et al. (2003).

http://dx.doi:10.1016/j.jsha.2015.05.244

64. Evaluation of cardiovascular anomalies in conjoined twins: A single-centre experience from King Abdulaziz Cardiac Center

Abdulsalam Alsayad, Abdu Alkhatibi, Mohammed H. Alghamdi, Abdullah Al Rabeeah, Fahad Alhabshean, Riyadh M. Abu-Sulaiman

A Stanford Type A aortic dissection is a life-threatening surgical emergency that requires emergent surgery. The mortality after repair is high especially if the aortic dissection is complicated by visceral or
peripheral malperfusion. We describe a case of a male patient who presented with an aortic dissection involving the ascending aorta, aortic arch, descending thoracic and the abdominal aorta up to the iliac bifurcation. The dissection also involved the visceral and renal arteries with evidence of superior mesenteric artery (SMA) occlusion. Successful outcome was achieved by endovascular stenting of his SMA, followed by Bental procedure. To the best of our knowledge this is the first case report in English literature of SMA stenting followed by Bental procedure to treat acute type A aortic dissection complicated by SMA occlusion.

http://dx.doi:10.1016/j.jsha.2015.05.245

65. A female neonate with unguarded mitral valve orifice

Ayed Shati, Ayed Shati, Ali Alakhfash, Abdulrahman Al Mesned, Zohair Yousef Al-Halees

Introduction: This is a rare congenital heart disease case of unguarded mitral valve orifice, transposition of great vessels, and pulmonary atresia with a dilated left ventricle that has not been reported.

Case presentation: A 3 kg, Saudi, female neonate presented from a local hospital with oxygen saturations of 85%. She came with a prenatal diagnosis of Ebstein’s anomaly and pulmonary atresia. Post natal echocardiogram showed situs solitus, atrial ventricular concordance and ventricular arterial discordance, confluent pulmonary arteries that are ductal dependent and atrial septal defect. There was no mitral valve apparatus with to and fro movement into a dilated thinned out left ventricle. She was started on prostaglandin. Physical exam revealed non dysmorphic features. The precordium was hyperactive with single s1, s2, and early systolic murmur radiating to apex. She had good quality pulses. Electrocardiogram showed sinus tachycardia without pre-excitation and prominent right forces. She did develop supraventricular tachycardia that was controlled. Chest film showed massive cardiomegaly. MRI confirmed echocardiography findings. Surgical decision was to initiate a single ventricle approach with exclusion of the left ventricle. Biopsy showed myocardial muscle disarray, excluded diagnosis of Uhl’s anomaly and ischemia. Postoperatively had heart block but surgical shunt was patent. She succumbed to arrest after extubation.

Conclusion: This case raises many questions regarding embryologic cardio genesis, specifically the association of pulmonary atresia, transposition of the great vessels, and unguarded mitral valve orifice. What is the optimal surgical technique in such a patient and does left ventricle exclusion impair right ventricular function?

http://dx.doi:10.1016/j.jsha.2015.05.246

66. King Faisal experience for cardiac surgery in adults with congenital heart disease: Outcome of primary and redo surgery

Raja Abou Elella, Musleh Alanazi, Abdullah Alwadaai, Zohair Halees, Mohamed Qaran, Mohamed Ibhaia

Introduction: Adult survivors with congenital heart diseases represent a growing population. Therefore, we aimed to review our experience in King Faisal Heart center for the outcome of adult patients with congenital heart disease who underwent either primary or redo surgery at our center.

Methods: We retrospectively reviewed all patients who underwent surgery either as the first surgery or as a reoperation for congenital heart disease aged greater than or equal to 16 years old at the time of cardiac surgery and in the period between 1st January 2008 and 1st January 2013. We looked for incidence of postoperative bleeding, arrhythmia, acute kidney injury, neurological complications, and duration of mechanical ventilation, hospital stay and ICU stay. Additionally, we assessed the mortality and 1 year survival rates.

Results: 98 patients were included in our study. Fifty-two (53%) females and 46 (47%) males, with mean age of 26 ± 8.4 years and mean weight of 62 ± 22.8 kg. Forty-nine patients (50%) required redo surgery. Ten patients (10%) suffered from postoperative bleeding. Eight patients (8%) had postoperative arrhythmias, of which 2 patients required permanent pacemaker insertion. Two patients (2%) had postoperative acute kidney injury, of which one required dialysis, and 7 (7%) patients suffered from neurological complications. The mean duration of ventilation was 1.3 ± 2 days, with mean ICU and hospital stay of 3.7 ± 3, and 10 ± 7 days, respectively. The overall mortality in our series was 4% with one year survival of 100%.

Conclusion: Adult patients with congenital heart disease are prone for immediate postoperative multiple system complications, yet the majority of it is reversible, and their one year survival rate is excellent. Further follow up studies are required.

http://dx.doi:10.1016/j.jsha.2015.05.247

67. Clinical and echocardiographic predictors of postoperative atrial fibrillation

Mohamed Elawadi, Mohamed Bashandi

Background: Postoperative atrial fibrillation is the most common arrhythmia after coronary artery bypass grafting, with a reported incidence of 10–60%. Preoperative clinical and echocardiographic data, especially the atrial