Why PDA stent in Egypt?

- Too small pulmonary arteries to shunt
- High cost of Prostaglandin E1 infusion
- Long waiting list for surgery
- Critical patient condition not accepted for surgery

Aim of the Work

- To assess the efficacy, safety and immediate outcome of ductal stenting in neonates & young infants with duct-dependent pulmonary circulation

Patients and Methods

- **Inclusion criteria:**
  - All patients with duct dependent pulmonary circulation
  - Patients unable to undergo a shunt operation
- **Exclusion criteria:**
  - Bleeding tendency
  - Sepsis
  - Newborns with hyaline membrane disease
  - Patients with pneumonia

Results

- Starting April 2008 until February 2011
- 56 Patients with duct dependant pulmonary circulation were included in the study
- The mean age was 33.7 ± 35.1 days (5-220).
- The mean BW was 3.6 + 0.76(2.5-6.5).

Procedural Data

- Stent diameter: 4 mm (3 – 4 mm).
- Stent length: 12-28 mm (19.3 ± 3.2 SD mm)
- Access: Femoral artery: n = 55
  - Axillary artery: n = 1
- Fluoroscopy time (min.): 8.5 – 42 (24.7 ± 18)
- Procedure time (min.): 25-166 (88.5 ± 36.5)
- Redilatation in 2 cases.
- 2nd stent in 1 case.

Success rate

In 64% of patients PDA stenting was successful.

The improvement of O2 saturation in immediate post-stent settings

<table>
<thead>
<tr>
<th>Sao2 before stenting</th>
<th>65 ± 5.79 %</th>
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<tbody>
<tr>
<td>Sao2 after stenting</td>
<td>85.2 ± 19.9 %</td>
</tr>
</tbody>
</table>

The distribution of successful cases among the different duct morphologies:

- Failed
- Successful

Complications

<table>
<thead>
<tr>
<th>Femoral Artery Obstruction</th>
<th>Stent displacement</th>
<th>Acute stent thrombosis</th>
<th>Excessive PBF</th>
<th>NEC (Sepsis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6(10.7%)</td>
<td>2(3.5%)</td>
<td>2(3.5%)</td>
<td>1(1.7%)</td>
<td>1(1.7%)</td>
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Conclusion

- PDA stenting is a life saving procedure.
- Should be attempted even in tortuous ducts.
- Proper preparation of the patient, anaesthetic management and post-stenting ICU management are mandatory for success.
- Surgical intervention should be done early after successful stenting to guarantee good surgical outcome before desaturation.

Acknowledgement

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