PERCUTANEOUS MITRAL BALLOON COMMISSUROTOMY

What is Percutaneous Mitral Balloon Commissurotomy or Balloon valvuloplasty?
- It is an interventional technique that is comparable with closed mitral commissurotomy or an alternative surgical treatment for mitral stenosis.
- It is a procedure that helps in the dilatation of arterial stenosis & the pulmonary and aortic valves.

How will they do it?
- The valve dilation is usually carried out by the trans-septal (right atrial to left atrial to left ventricular) antegrade approach.
- The mitral valve is then dilated. After balloon removal, hemodynamic measurement are made & if inadequate valve area has been obtained, a larger balloon is inserted & the procedure is repeated.

Who will benefit from it?
The patients who:
1. Have pulmonary HPN
2. Experience breathlessness/difficulty of breathing
3. Have mitral stenosis

What are the complication of this procedure?
1. Complete heart block
2. Atrial Septal Defect
3. Thromboembolism
4. Pericardial tamponade

How can this Balloon Valvuloplasty help the patients?
- It produces an increase in mitral valve orifice & decrease in right sided pressure.
- Splitting of the commissures was the main responsible for the increase in the valve area.

How to do this kind of procedure?
The technique consists of advancing a small balloon flotation catheter across the interatrial system (after transeptal puncture) enlarging the opening & advancing one large (23 - 25 mm) or less smaller (12 - 18 mm) balloon across the mitral orifice and inflating them within the orifice.
Commissural separation & fracture of nodular calcium appears to be the mechanisms responsible for improvement in valvular function.

Who will benefit from it?
1. Patient with a combination of significant symptoms & documented MS
2. Patients with less favorable valve who are unsuitable for surgery because of high risk like; elderly patient, patient with associated ,HD (Ischemic Heart Disease)
3. Patient diagnosed of MS with complication of pulmonary renal & neoplastic disease
4. Women of child bearing age in whom valve replacement is undesirable
5. Pregnant women with MS

What are the preparation before, during and after the procedure?

a. Before the Procedure:
   - You will probably enter the hospital the evening before the catheterization & have the test the next day
   - You will be asked about your past medical history. In addition, you will have blood tests & probably a chest x-ray & EKG (electrocardiogram). Be sure to remind your doctor of any allergies you have to foods, medications, or x-ray dye.
   - After midnight you won’t be allowed to have anything to eat or drink, but you may rinse your mouth with water.
   - In the morning, you will be given a mild sedative per oral.
   - A small area (site) on your groin or arm will be used for catheter insertion. The site and area around it will be shaved at least once before the procedure.

b. During the Procedure:
   - There will be a TV screen near you, and you may be able to watch the procedure and at the same time the doctor will tell you what he is doing.
   - After you are moved to the x-ray table, small sticky EKG pads which is called electrodes will be placed on the side of your chest so that your heart rhythm can be monitored.
   - The site where the catheter will be inserted (your arm or groin) will be cleaned with antiseptic solution (betadine) that may feel cold.
   - Most of your body will be covered with sterile sheets. It is important not to touch these or move once you are covered. You may be asked to keep your arms at your side or above your head.
   - If your nose itches or if you need to move for any reason, tell one of the nurses or technicians. They will do their best to keep you comfortable. Remember do not move until you are told to do so. Before the procedure begins, the doctors will inject a lidocaine (local anesthesia) through a
syringe intradermally (groin/radial/brachial) to numb the site of insertion. This will probably feel like a bee sting.

- When the area is numb, the doctor will make a small incision just to allow the introducer sheath (a short hollow tube) to pass through.
- Then a catheter will be inserted through the introducer sheath & into your artery.
- The catheter will be guided into your heart leading to your coronaries. The doctor may inject a small amount of dye to help him see the artery more clearly.
- During the procedure the doctor may ask you to take a deep breath or cough at a certain times. It is important to do that as soon as you are asked.
- There will be a time when you will feel warm sensation all over your chest, down to your buttocks that will last for 15-30 seconds. This is a normal reaction to the contrast medium and is not cause of concern.

- c. After the Procedure:
  - When the procedure is finished and the catheter is taken out, a doctor or nurse will hold pressure on the insertion site for several minutes until the bleeding stops.
  - If your groin was used, you will have to stay in bed. There will be a pressure dressing on your groin or arm and a 6 lb. sandbag will be placed over the affected area for 6 hours. DO NOT REMOVE the sandbag unless your nurse tells you that it is already for removal.
  - During the time you are asked to stay still, if you need to urinate, you will have to use a bedpan or urinal.
  - You will be able to sit up straight by raising the head of your bed slightly to make you comfortable.
  - If you want to turn to your side, ask for the nurse to help you.
  - If your arm was used, it may be able to sit up, but you will have to keep your arm still.
  - Remember do not move until you are told by your nurse. It is very important for you to follow all the directions you are given so that your leg or arm does not start bleeding.
  - For a while after the procedure the nurse will be checking your blood pressure & pulse frequently.
  - The result of your will be discussed with you by your attending doctor. And he will direct what will be the next management for your health.

What are the Discharge Instruction for Patients having PMBC ?

a. Exercise / Activity

- Limit strenuous activity for 3-5 days
- Do not drive a car for 24 hours
- No heavy lifting greater than 20 pounds for the next 3 days
- Avoid excessive bending at the hips and stopping for the next 3 days
b. Puncture Site

Check the puncture site daily

Report any unusual pain, swelling, bright red bleeding, or oral temperature of 101.5 F. or more to your physician. (a small bruise is not unusual at the insertion site.) You may shower after 12 hours and wash the site gently with soap and water. Rinse well.

c. Follow-up Visit

Your follow-up appointment will be scheduled by your attending physician.