



VIRTUAL CARDIAC EXPEDITION

INNOVATIONS IN MINIMALLY INVASIVE CARDIAC CARE

MITRACLIP™

Questions & Answers with Dr. Kevin Bainey





QUESTIONS FROM VIRTUAL CARDIAC EXPEDITION:

1) How many patients were in the study you referenced?

The COAPT study was about 600 patients.

2) What symptoms would indicate the need for this procedure?

Shortness of breath with severe mitral regurgitation as the cause – and not a open heart candidate.

3) What is the longevity of these clips?

We have 5 year data so far.

4) Do you contemplate that this procedure may become a preferred option even for patients who are candidates for open heart surgery?

Yes I do – lots of research with other devices. I do believe there will be a day where the mitral valve will be fixed only using transcatheter techniques.

5) How long is the recovery period after surgery?

24-48 hrs – then home and back to normal activities!

6) What anticoagulation therapy is used post op?

Aspirin only

7) Are there additional pharmaceuticals prescribed post-procedure, short or long term?

No

8) Does the shortness of breath "feeling" come from an oxygen starved heart or from lung impairment?

Comes from blood/ fluid accumulating in the lungs (from mitral regurgitation) causing SOB

9) Is shortness of breath the sole symptom of this valve problem?

Shortness of breath, weight gain from fluid accumulation, fatigue, inability to lay flat due to SOB.



10) Does the hole in the septum reseal on its own? Does the patient need to be on anticoagulant therapy?

Yes most commonly it does. No need for anticoagulation.

11) Is there any similar surgical procedure for addressing problems with the aortic valve, avoiding open heart surgery?

Absolutely yes – TAVR/TAVI

12) How can the valve still function if it has been clipped?

The clip merely reduces the degree of leakiness – the valve still functions normally.

13) Do complications occur, ie clip displacement, Mitral valve injury?

VERY unlikely. There have been NO clip embolization cases in Canada.

14) When the clip is set to close the valve, will tissue start the healing process, i.e. as the clip ages, and supposedly losing the 'clipping' ability, the body is building its own clipping through biological means?

The body will grow over a thin layer of biologic tissue – making it friendlier to blood. It does not affect the performance

15) I thought that I had read that “head nodding to one’s heart beat” also predicted regurgitation of blood?

Not for Mitral Regurgitation. This is for Aortic regurgitation

16) My sister had valves replaced when she was 40 due to rheumatic fever. She had another surgery at 59 to replace the original device. Years ago they had to out in a stent. They said she could no longer have open heart surgery as 2 were enough. She suffers from shortness of breath. Should she follow up on something like this?

There are possibilities of fixing an old surgical valve with transcatheter techniques. She should be referred to the MAZ for consultation.

17) Over the years we have heard of heart valve replacement, is this the same valve that you are talking about?

Yes – but heart valve repair



18) We have a grandson age 10 who has a leaky valve. Is this a procedure suitable for a child, or later as an adult?

Great question. Not ready for kids yet – open heart surgery is still the standard

19) If this procedure fails while patient is under your care, is the patient then rushed off to open heart surgery?

It is possible to have open heart surgery after the device is implanted.

20) How quickly does the trans atrial septum heal after it has been punctured to access the mitral valve? Does this ever create a problem?

Heals very quickly and does not cause any issues.

21) Can you have a MRI when you have a mitralclip?

Yes!

22) Could you please describe your path to becoming an interventional cardiologist? What is some advice you would give to students hoping to pursue a similar career path?

Lol! Long process. 4 years undergraduate degree, 4 years medical school, 6 years cardiology, 2-3 years interventional cardiology. Totally worth it!

23) What are the risks associated with the procedure?

Mainly bleeding from the puncture site only.

24) With patients living longer and having lower HF hospitalization instances is there also less strain on the health care system compared to medication only treatment?

Absolutely YES!!!! Reducing HF hospitalization is a HUGE cost savings with this procedure. I wish the government would recognize this.

25) Can a patient with cardiac artery stents be a candidate for this?

A patient with coronary stents can absolutely have this procedure.



26) Could a similar procedure work for bypass surgery?

Yes, during open heart surgery you can also lace a stitch on the mitral valve which would act like a mitral clip

27) I had open heart surgery approximately 6 years ago, I'm 66 years old now, I have some wear on the valve now. As per my cardiologist, He mentioned that I would need open heart surgery down the road, would this procedure work on aorta valve?

Different procedure called TAVI/TAVR – but yes.

28) If you need a valve repair or replacement (can't tell until they go in) and they find you also need a single blockages, can you qualify for this clip? Other issues are bad asthma and lung capacity.

Yes you can. Bad blockages can be fixed with stents first. Lung capacity issues may preclude open heart surgery so then they would be candidates for mitralclip.

29) Is recovery of this procedure similar to a TAVI? When can usual activities be resumed? When Cardiac Rehab be started?

Recovering even better as it is a venous procedure.

30) What type of anesthetic is used in this procedure?

General anesthetic since the procedure can last up to 4 hours.

31) Are blood thinners required?

Just aspirin

32) My daughter is 41 years old now. She did have regurgitation of mitral valve at 23yrs old and it was repaired. She will need another surgery by 50 yrs she was told. Will this clip be available for patients at any age if they are not good candidates for open heart surgery?

Possibly yes –needs an assessment first.

33) With respect to the 46% dead without clip versus 29% with clip, is the same drop evident whether male or female?

Great question. Similar mortality rates.



34) Why can't all cases of mitral regurgitation be addressed using this catheterization method, avoiding open heart surgery for all patients with this problem?

Open heart surgery is still standard of care. It will take many years with other devices before this type of procedure surpasses open heart surgery.

35) Dr. B. Your pt. required two clips. Can you tell us where do you place the 2nd one and what kind of material prosthetic valve has and I understand only Coumadin will be used post-op. indefinitely. Is it true?

Send clip is just placed beside the 1st one. Made of a metallic clip covered in a biofriendly fabric. No need for Coumadin!

36) How many of these mitraclip procedures could you perform in Alberta if the provincial government funded all the outstanding provincial demand? Do you have capacity to serve patients from other provinces if they were funded by their respective government health services? Would that help fund the surgical suite or increase maintenance costs?

Great questions indeed. We are at the mercy of the government funding such programs. Right now the government has not agreed to fund (despite 5 years of my efforts). The University Hospital Foundation was the reason we could start. We anticipate 10-12 cases to start. We have the capacity to do MANY more! Yes we have capacity to serve other provinces (if that province agrees to pay). There are no issues for funding the surgical suite or maintenance – we use the cardiac catheterization labs for many other procedures. The only limiting issue is the cost of the technology.

37) A follow-up question re the success rate, would there be a better outcome if the patient were younger than the average versus older than the average?

Great question – probably likely – however these procedures as it stands now are only for those who cannot undergo open heart surgery.

38) Could this type of procedure also work on other leaky heart valves, e.g. tricuspid?

Yes certainly possible. Lots of Canadian work underway looking at using the MitraClip for the Tricuspid valve.

39) What is the rate of clip embolization and when does this happen most frequently?

<0.1%.



40) This is a tremendous accomplishment. Thank you to the University Hospital Foundation and Dr. Baine and his team. Would this procedure be appropriate for a pediatric patient that isn't viable for open heart surgery?

As it stands currently, this is only for adults.

41) Can you have an allergy to the clip?

No

42) If you have a mitral valve replacement, can this procedure be used in the future if necessary if the valve breaks up again?

As it stands now – not likely. However, there are other transcatheter techniques that can be done for a failed mitral valve replacement to avoid another open heart surgery.

43) Could the clips get dislodged as a result of stress or pressure?

No.

44) Is there any way to improve mitral valve performance other than general heart health?

Not really. Many with mild or moderate mitral regurgitation will live their lives without any concern. It's the severe mitral regurgitation that becomes clinically concerning.