

Proof of effectiveness of mastopexy with mesh reinforcement

– Dr H.P. de Bruijn

Mastopexy aims to correct ptotic floppy breasts. So far 34 different surgical procedures have been described.¹⁻² There is general agreement in literature that mastopexy does not give a permanent effect resulting in recurrent ptosis.³⁻¹⁰

In recent years mesh reinforced mastopexy has been developed and advocated to prevent recurrent ptosis.¹¹⁻¹⁸

In this kind of surgical procedures there are different scientific methods to prove the effectiveness or absence thereof.

In order of scientific value these can be listed as follows,

1. A controlled randomized double blind study. On both sides a mastopexy procedure is performed, one side is reinforced with mesh, the other side is not. The patient serves as her own control. Neither the patient nor the investigator is aware of the location of the reinforced side.
2. A study in which one side is reinforced while the other is not, serving as control.
3. Post operative measurements on patients receiving mesh reinforced mastopexy and comparing this data with the literature.
4. A retrospective questionnaire on the effectiveness of the procedure e.g. the recurrence of ptosis.
5. Reported results by the author
6. Absence of complaints regarding the promised result.

Ad 1. Although scientifically the most sound research, a controlled randomized double blind study has so far never been performed or published in literature in any kind of mastopexy procedure including mesh reinforced mastopexy. It is unlikely that this will happen in future as the patients seeking correction of their ptotic breasts by a mastopexy procedure undergo this treatment usually at their own expense. They are commonly a rather demanding and critical type of patient, unwilling to be submitted to this kind of study, which will need a second procedure, as well, to correct possible differences occurring from the difference in technique used.

Ad 2. One side serving as control type of study has never been performed in any mastopexy technique. However three experiments in mesh reinforced mastopexy do qualify for this type of research :

- In 2007 three patients gave consent to undergo a one sided mesh reinforced mastopexy and a conventional mastopexy on the other side. An obvious difference was reported and a secondary reinforcement was performed on the non mesh side half a year post operative.

- In the early stage of mesh reinforced mastopexy, before pre-shaped mesh implants were available, the mesh was custom shaped during the operation. At three occasions, dehiscence at the side of the suture of the folded mesh occurred resulting in local bottoming out at that location. Bottoming out did not occur at any other place where the mesh was present.
- One patient requested 18 month post operative removal of the implanted mesh due to pain she blamed the mesh for. The pain did not alter, but within ½ year obvious recurrent ptosis was observed making her regret the removal of the mesh.

These three types of observation indicate the effectiveness of mesh in prevention of recurrent ptosis, and were published in the scientific literature.¹⁸⁻¹⁹

Ad 3. In the literature there is general agreement that recurrent ptosis will occur after conventional mastopexy. This could serve as reference for the results of mesh reinforced mastopexy. In 2008 the absence of recurrent ptosis one year after mesh reinforced mastopexy was reported and published. Recent data available with measurements pre-operative, 3 month post-op, 1 year post-op and 5 years post-op show no significant recurrence of ptosis. (N=14)

	Pre-op				3 month post op				1 year post-op				5 years post-op			
	snnr	snnl	nifr	nifl	snnr	snnl	nifr	nifl	snnr	snnl	nifr	nifl	snnr	snnl	nifr	nifl
average	26,7	27,1	9,8	10,2	20,2	20,4	9,5	9,4	20,5	20,3	9,8	9,8	20,6	20,5	9,7	9,8

Ad 4. No retrospective questionnaire on the effectiveness on any mastopexy technique has been reported so far in literature.

Ad 5. In 2006 in a series of 392 patients with a longest follow-up of 15 years no recurrent ptosis was reported by mesh reinforced mastopexy.¹⁷ In 2008 a series of 170 patients with a longest follow-up of 4.5 years without recurrent ptosis was published.¹⁸

Ad 6. So far 340 patients with a longest follow-up of 7 years were treated with a mesh reinforced mastopexy. Patients choose this type of surgery in order not to have a recurrent ptosis. None of these patients have reported a recurrence to this date.¹⁻²

Discussion:

In the field of mastopexy there is general agreement that the conventional procedures will end up with a recurrent ptosis. Hardly any scientific research or evidence on effectiveness exists in this field. The effectiveness of mesh reinforcement to prevent recurrent ptosis is the best reported in literature on this subject so far. All data indicates a strong support for the claim that recurrent ptosis does not occur. From a mechanical point of view this is easily understood. The inserted mesh together with the induced layer of surrounding connective tissue, acting as a composite material is so strong that rupture is extremely unlikely. In practical terms this composite material will not give way during its life time.¹⁹ The only possible other way, leading to a recurrent ptosis, is that the inserted mesh detaches from the cranial insertion on the pectoral fascia. Due to the reported and histological proven ingrowths of the mesh in the surrounding tissue, this is unlikely to happen. In case it would happen, this would not only result in a recurrent ptosis, but also in deformation of the breast. There is no indication in literature that this has happened.

Conclusion:

From all the available evidence in literature, being the best available and most reliable scientific data in the whole field of mastopexy, there is abundant indication, contrary to conventional mastopexy techniques, to expect prevention of recurrent ptosis by mesh reinforced mastopexy.

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Four examples

Pre-operative

1 year post- operative

5 years post-operative

