

Letter to the editor

Response to: “Ultrasound elastography for the detection of capsular fibrosis in breast implants: First results.”

Yara Bachour*

Department of Plastic, Reconstructive and Hand Surgery, Amsterdam UMC- location VUmc, Amsterdam, Netherlands

To the editor:

With great interest we have read the article “Ultrasound elastography for the detection of capsular fibrosis in breast implants: First results” [1]. The authors propose the use of ultrasound elastography to objectify capsular contracture, the most common complication around breast implants. Although their idea is interesting and could potentially be used in clinical practice, we have substantial concerns regarding the execution of this study.

Silicone breast implants have been used since 1960 predominantly in aesthetic and reconstructive surgery [2]. Capsule formations occurs around every foreign material as a normal foreign body reaction. In some cases this formation tends to overextend leading to a thick and hard capsule; capsular contracture. Capsular contracture is the leading complication after breast implant surgery. Its prevalence ranges from 5–19% in aesthetic surgery and 19–25% in reconstructive surgery [3, 4]. Capsular contracture is clinically measured according the Baker score [5]. According to this score, a Baker type 1 and 2 is a soft breast. Baker type 3 and 4 is a firm, painful breast with an implant deformation. Although the Baker score is the golden standard to classify capsule firmness, it is a subjective scale. Therefore, the authors have attempted to search for an objective method, ultrasound elastography, to detect contracted capsules.

The authors claim that the Baker score is a subjective classification for capsular contracture. Yet, they compared the results of ultrasound elastography with the Baker score. How did they compromise for the subjectivity of the Baker score? And what would it mean if an objective method correlated with a subjective classification?

The surgical procedure (capsulectomy vs. capsulotomy) during implant replacement is not completely clear. This would impact the results since during a capsulectomy most of the capsule is removed while during capsulotomy the capsule is partially removed or released [6]. This also brings me to the

*Corresponding author: Y. Bachour, MD, PhD, Department of Plastic, Reconstructive and Hand surgery, Amsterdam UMC-location VUmc De Boelelaan 1117, PO Box 7057, 1007 MB Amsterdam, Netherlands. Tel.: +31 617036228; Fax: +31 204440151; E-mail: yarabachour@gmail.com.

30 next point: The authors choose to objective capsular contracture after implant replacement. Why did
31 they not choose to objective a primary capsule? Since it is unknown how the formation of a first capsule
32 influences the secondary capsule formation, the first capsule might poses as a bias.

33 The authors found an improvement in Baker scores and pain after implant replacement. However,
34 they also showed that the first evaluation and implant removal was after an average of 91.1 ± 75.1
35 months after implant insertion. This is much longer than the second evaluation of 36 months. How do
36 the authors know that the differences are not time related differences as capsular contracture occurs
37 more often when time progresses [3]?

38 **Conflict of interest**

39 The authors do not have a financial interest in any of the products or devices mentioned in this article
40 or of the associated article.

41 **References**

- 42 [1] Jung E, Hösl V, von Fraunberg S, Jung F, et al. Ultrasound elastography for the detection of capsular fibrosis in breast
43 implants: First results. *Clin Hemorheol Microcirc.* 2020. doi: 10.3233/CH-200875. Epub ahead of print.
- 44 [2] Araco A, Caruso R, Araco F, et al. Capsular contractures: a systematic review *Plast Reconstr. Surg.* 2009;124:1808-19.
- 45 [3] Bachour Y, Bargon CA, de Blok CJM, et al. Risk factors for developing capsular contracture in women after breast
46 implant surgery: A systematic review of the literature. *J Plast Reconstr Aesthet Surg.* 2018.
- 47 [4] Bachour Y, Verweij SP, Gibbs S, et al. The aetiopathogenesis of capsular contracture: systematic review of the literature.
48 *J Plast Reconstr Aesthet Surg.* 2018;71:307-17.
- 49 [5] Baker JL, Jr., Bartels RJ, Douglas WM. Closed compression technique for rupturing a contracted capsule around a breast
50 implant *Plast. Reconstr. Surg.* 1976;58:137-41.
- 51 [6] Ganon S, Morinet S, Serror K, et al. Epidemiology and Prevention of Breast Prosthesis Capsular Contracture Recurrence.
52 *Aesthetic Plast Surg.* 2020. doi: 10.1007/s00266-020-01876-y. Epub ahead of print.