Letter to Editor by Losanoff et al- Reply

(Physiological repair of inguinal hernia-A new technique)

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To the Editor,

I am thankful to J. E. Losanoff M.D. and J. Michael Millis, M.D. for reading my article with interest. I have gone through their comments carefully.

Their statement that "The overlap in follow-up time among the series is confusing and demands an explanation…." is probably because they have overlooked my explanation given about this in the 'Introduction' section itself. The drawback of poor long term follow up in previously published series is removed in this series. So it will be nice if we concentrate on results of this series.

The statement that "We find no evidence …. his results are superior to that of previously published series of mesh repair." is also probably because they have overlooked the zero% recurrence rate observed in the median follow up period of 7.8 years of this series. I have mentioned in the article about my personal communications with many other surgeons from other countries and given their email addresses for verification. The results observed by them also show zero% recurrence in their locally published series. Secondly, a pure tissue hernia repair does not need any justification like "Modern monofilament prosthetic materials resist infection, have a negligible suppuration rates, and excellent tissue incorporation", as it does not use any foreign body. My operation technique gains on this count also. I do agree with the above statement about the quality of modern mesh. But, if given a technique of inguinal hernia repair having comparable, if not superior results, what will anybody choose for himself -a pure tissue repair or a mesh (foreign body) repair?

The statement that-"The recent literature …. pathological changes in collagen, …. that sets the stage for the development of a hernia" is not relevant to this article because it is a description of a new technique of hernia repair and not its etiological factors. However, I agree with their further statement that-"Numerous … trials ….superiority of the tension-free mesh repair over the traditional tissue approximation method". This is true because the traditional tissue approximation methods use transversus abdominis and internal oblique muscles for repair even if they are weak. Therefore, I have stated in my article that "The

aging process is minimum in tendons and aponurosis and therefore it is the best alternative to mesh" (Instead of Shouldice or other pure tissue repairs).

"A number of such repairs described in Lason's classic 1941 text are similar……. Madden [16], Koontz [17], Calman [18], and Halsted [16] all describe variants of inguinal floor repair similar to the one described in the Desarda articles". I do not agree with those statements because Shouldice operation is similar to or a variant of Bassini operation; various mesh repairs like PHS are variants of the original Lichtenstein mesh repair but still they are not only accepted but are promoted. I still maintain that my operation technique is neither similar to or a variant of all above-mentioned operations, because none of them have ever used the strip of external oblique aponurosis (EOA) as described in my technique. No operation described to date has ever used the concept of giving additional muscle strength to the weakened muscles of the inguinal canal. The sutured strip of EOA in my operation becomes an independent entity as the posterior wall of the inguinal canal, which is kept physiologically dynamic as per the force of contraction of the muscles. This posterior wall is strong because of the nature of the strip and it is also kept physiologically dynamic by the additional muscle strength of the strong external oblique muscle. Interestingly, in many cases the internal oblique muscle, which did not show any movements when the patient was asked to cough while on the operating table before the strip of EOA was sutured behind the cord, showed improved or good movements after the strip was sutured. This may be because of the new anchorage received by the internal oblique muscle arch to the upper border of this strip. Providing a strong and physiologically dynamic posterior inguinal wall should be the principle of any inguinal hernia repair. This principle is observed in my operation technique and it gives a zero% recurrence rate because of this. Pure tissue repair and simplicity of operation are other important features of this operation. The cost involved in purchasing and maintaining sophisticated equipment like laparoscope is avoided and the expertise required doing complicated dissection or handling of such equipment is also not required.

I am in agreement with Losanoff et al that the prosthetic grafts give good results and are frontline therapy in the Western hemisphere. Twenty per cent of the world population lives in the Western hemisphere. I am thankful to Losanoff et al for accepting my operation of inguinal hernia repair as an alternative to a mesh repair for the rest of the world, which has the remaining 80%of the world population.

On the basis of afore said discussion, I have strong objection about the title "Aponurosis instead of prosthetic mesh for inguinal hernia repair: neither physiological nor new" given by Losanoff et al to their letter. I request the editors to kindly delete this misleading title.

The type of title and repeated mention of mesh repair as 'gold standard' or the statements like "Although many of the endogenous repair methods might be used alternatively to mesh in parts of the world

where prosthetic materials are not available, they cannot become standard in the Western world" points towards a biased attitude. I conclude with an appeal to all the highly learned members of the surgical community to come forward with an unbiased mind and think for themselves what is best for their patients.

Lastly, I have never criticized the Lichtenstein mesh repair. There is no reason for me doing so when amid and Lichtenstein themselves have written "In mobile areas such as the groin there is a tendency for the prosthesis to fold, wrinkle or curl around the cord. More importantly, in vivo, mesh prosthesis loose approximately 20% of their size through shrinkage. The slightest movement of the mesh from the pubic tubercle, the inguinal ligament and the area of the internal ring, due to the above factors, is a leading cause of failure of mesh repair of inguinal hernias." (1) Also an editorial in *Annals of Surgery, January* 2001, raised the question of whether the changed techniques of hernia repair in recent years, mainly implanted mesh, have caused a rise in the incidence of chronic groin pain from 1%to 28.7%after hernia repairs. Bay-Nielsen et al (2004) reported an incidence of 33.1% at 6-12 months and 23.1% at 25-36 months of chronic groin pain following Lichtenstein repair.(2) Nienhuijs SW et al (2005) reported that the "chronic groin pain is also a very common problem" in their randomized clinical trial comparing PHS, mesh plug repair and Lichtenstein repair. (3)

Considering all the above points, I think, this new method of hernia repair will stand the test of time and will prove its superiority in any controlled trial.

References:

1. Amid PK, Lichtenstein IL. Lichtenstein open tension free hernioplasty. (1997) In: Maddern GJ, Hiatt JR, Philips EH (eds) *Hernia Repair (Open vs Laparoscopic Approaches).* Edinburgh: Churchill Livingstone. 117–22.

2. Bay-Nielsen M, Nilsson E, Nordin P, Kehlet H.(2004) Chronic pain after mesh & sutured repair of indirect inguinal hernia in young males. Br J Surgery. 91 (10): 1372-76.

3. Nienhuijs SW, van Oort I, Keemers-Gels ME, Strobbe LJA, Rosman C. (2005) Randomized clinical trial comparing PHS, mesh plug repair and Lichtenstein repair for open inguinal hernia repair. Br J Surg. Vol 92:33-38