



Authors' Reply: Ilioinguinal Nerve Neurectomy is better than Preservation in Lichtenstein Hernia Repair: A Systematic Literature Review and Meta-analysis

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It is a sincere pleasure for us that interested and expert readers drawn to our attention some observations concerning our paper (“*Ilioinguinal Nerve Neurectomy is better than Preservation in Lichtenstein Hernia Repair: A Systematic Literature Review and Meta-analysis*”) [1].

As reported from Aiolfi et al., one of the most important bias of the included RCTs and common clinical practice of hernia surgery is the identification of all inguinal nerves. In a recent systematic review and meta-analysis on 5265 half-body examinations, the identification rate of the ilioinguinal nerve (IIN) was 94.4% (95% CI 89.5–97.9) using a random-effects model; the identification rates of the iliohypogastric nerve (IHN) and genitofemoral nerve (GNF) were 86.7% (95% CI 78.3–93.3%) and 69.1% (95% CI 53.1–83.0%) [2]. An expertise in surgical anatomy can facilitate intraoperative identification of inguinal nerves and reduce the risk of their iatrogenic or prosthetic injury associated with chronic post-operative groin pain. Moreover, in our meta-analysis, the subgroup analysis of the

studies that identified the IIN shows that one of the risk factors identified (not reported identification of IIN) does not modify the trend in favor of the neurectomy (RR 0.28, 95% CI 0.13–0.63, $p = 0.002$).

In our analysis of postoperative pain in ilioinguinal neurectomy vs preservation in Lichtenstein hernia, we have reported the Forrest plots for postoperative pain according to grade stratified in severe, moderate, mild and “not reported”. We do not have included the Forrest plots of global comprehensive analysis at 6th month (RR 0.39, 95% CI 0.28–0.54, $p < 0.0001$) because it is remarkably similar to the other reported Forrest plots and we therefore thought that this additional figure was not necessary; we now enclose in this reply this Forrest plot (Fig. 1).

The subgroup analysis present in our article allows to identify the weight of each group, that is, as the authors suggest, mostly driven by mild pain (69.2% for mild pain, 18.6% for not reported severity of pain, 10.6% for moderate pain and 1.5% for severe pain, respectively); this is not a limitation of our study, but it is the expression of the real distribution of chronic inguinal post-operative pain in common clinical practice. The limiting factor is the group of patients that not reported severity of pain.

The authors state that the qualitative analysis for the included trials shows that all studies were of low quality despite the randomization design, although this opinion diverges from our analysis performed with the Cochrane risk-of-bias assessment tool for randomized clinical trials.

A “divergence with current guidelines” is not the result of our paper because the International Guidelines for Groin Hernia Management of European Hernia Society only report a weak recommendation: “*A planned prophylactic ilio-inguinal nerve and/or ilio-hypogastric resection is not suggested*” [3]; furthermore, we did not suggest

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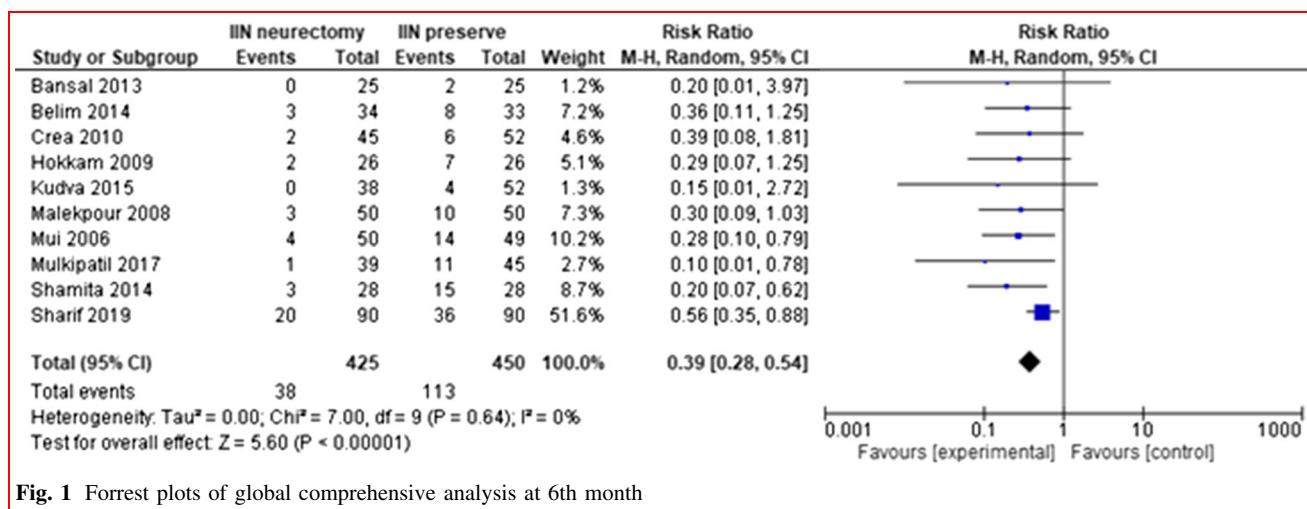


Fig. 1 Forrest plots of global comprehensive analysis at 6th month

prophylactic ilioinguinal and/or iliohypogastric neurectomy in the setting of all Lichtenstein inguinal hernia repair.

In our analysis, we reported that the prophylactic IIN neurectomy seems to offer some advantages concerning postoperative inguinal pain in the first 6th month period, but this advantage is associated with the risk of hypoaesthesia that it is higher in recent post-operative analysis performed with Dermatome Mapping Test (14.8%) [4].

For these reasons, in our opinion, a prudent surgeon should inform his patients about the uncertain benefits and the potential risks of IIN neurectomy during hernioplasty.

References

1. Cirocchi R, Sutera M, Fedeli P, Anania G, Covarelli P, Suadoni F, Boselli C, Carlini L, Trastulli S, D'Andrea V, Bruzzone P (2021)

Ilioinguinal nerve neurectomy is better than preservation in lichtenstein hernia repair: a systematic literature review and meta-analysis. *World J Surg*. <https://doi.org/10.1007/s00268-021-05968-x>.

- Cirocchi R, Henry BM, Mercurio I, Tomaszewski KA, Palumbo P, Stabile A, Lancia M, Randolph J (2019) Is it possible to identify the inguinal nerves during hernioplasty? A systematic review of the literature and meta-analysis of cadaveric and surgical studies. *Hernia* 23(3):569-581. <https://doi.org/10.1007/s10029-018-1857-2>.
- The HerniaSurge Group (2018) International guidelines for groin hernia management. *Hernia* 22(1):1-165.
- Cirocchi R, Mercurio I, Nazzaro C, De Sol A, Boselli C, Rettagliata G, Vanacore N, Santoro A, Mascagni D, Renzi C, Lancia M, Suadoni F, Zanghi G, Palumbo P, Bruzzone P, Tellan G, Fedeli P, Marsilio F, D'Andrea V (2020) Dermatome mapping test in the analysis of anatomo-clinical correlations after inguinal hernia repair. *BMC Surg* 20(1):319

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