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A Comparative Study between the Outcomes of Laparoscopic and Open Para Umbilical Hernia Repair at National Hospital Sri Lanka and Teaching Hospital Karapitiya

De Silva K.P.V.R.[#], Senevirathna R.W., Kumarasinghe J.P.M., Uluvititiya M., Manawadu N.V.
Department of Surgery, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka

[#]*Corresponding author: vidu.ruchira@med.ruh.ac.lk*

Background: Para-umbilical hernia (PUH) repair has shown a progressive development over the time. It was initially performed by the open technique. With the introduction of new mesh types, laparoscopic para-umbilical hernia repair is gaining increasing acceptance.

Objectives: To compare the intra operative time, post-operative surgical site infection and duration of hospital stay of Laparoscopic with open PUH repair.

Methods: A retrospective study was conducted with 302 patients between 30 to 60 years including both males and females from National Hospital of Sri Lanka and Teaching Hospital Karapitiya. Of the participants, 150 patients have undergone Laparoscopic PUH repair and the rest have undergone open PUH repair. Intra operative time, post-operative surgical site infection and duration of hospital stay of the patients were recorded. All surgeries were performed by two experienced general surgeons and they have used both methods on similar number of patients. A 95% confidence interval was selected to compare with the mean differences of two samples. Critical value for 95% confidence interval with 149 degrees of freedom is 1.976.

Results: The mean (SD) operative times for open PUH repair and laparoscopic PUH repair were 46 (± 3.1) and 25 (± 2.9) minutes, respectively. Except one patient, others were discharged on post-operative second day following laparoscopic PUH repair, resulting the mean (SD) number of days of post-operative stay in hospital as 2.01 (± 0.01) days. The post-operative stay of the open PUH repair group had a mean (SD) of 5.4 (± 2.12) days. In comparison to four patients with post-operative surgical infections following open PUH repair, none of the laparoscopic PUH repair patients developed post-operative surgical site infections. There was a significant difference of the mean number of days of post-operative stay in hospital between two groups ($p < 0.05$) and the mean operative time between two groups ($p < 0.05$).

Conclusions: Laparoscopic repair has significantly better outcomes in-terms of intra operative time, post-operative complications and duration of hospital stay. Therefore, the laparoscopic PUH approach should be considered as a better strategy for para umbilical hernia repair than open PUH.

Keywords: *Hospital stay, Laparoscopy, Para-umbilical hernia repair, Surgical site infections*