SUMMARY AND CONCLUSION

The flank incision is the most popular incision in renal surgery. However, exposure of the kidney is obtained at the cost of mutilating the musculature of the anterolateral wall of the abdomen and in a good number of instances, can produce weakness of the abdominal musculature and reducing the physical capability of the patients. In contrast, the posterior approach is the least traumatic because no muscles have to be cut.

35 patients who underwent upper urinary operations via the posterior lumbotomy were compared to contemporary 20 patients who underwent upper urinary operations through the standard flank approach. Records, including the total operative time, surgical procedures, intraoperative complications and postoperative complications, postoperative mobility, urinary leakage, number of parenteral doses of analgesia and hospitalization were obtained for comparative study.

The three popular techniques of posterior lumbotomy including lurz technique in 19 patients, Gil-Vernet in 11 patients and modified lumbotomy in 5 patients were used. These techniques involve successive incisions through the layers of lumbodorsal fascia to gain access to the kidney and ureter, and emphasizes a muscle-retracting technique. Proper positioning of the patient is the key of success of
the procedures through lumbotomy incision. The classical vertical lateral position hinder the lumbotomy approach by restriction of the operative field. However, the lateral position with mild elevation of the kidney rest and mild bending of the table with forward till for about 30 degree were appeared to be suitable for thin patients or moderately built while the lateral relaxed position with forward till for about 15 degree is the most suitable position for obese or muscular patients. Incision of the costovertebral ligament allows the last rib to be retracted up with improvement of the exposure. However, a very good exposure were obtained by subperiosteal resection of the last rib in 8 patients in whom 6 have high-placed kidneys and among them 4 were obese. The other 2 patients were obese.

The procedures performed via the posterior approach included pyelolithotomy in 19 patients (54.2%), upper ureterolithotomy in 10 patients (28.5%), pyelonephrolithotomy without vascular control in 3 patients (8.6%), simple radial nephrolithotomy in 1 case (2.9%), Davis ureterotomy in 1 case (2.9%), and Anderson Hyens pyeloplasty in 1 patient (2.9%). However, posterior lumbotomy were not tried in malrotated kidney or in cases who may need a vascular control. Posterior lumbotomy was used for extracting renal and ureteral stones either single in 21
patients or multiple in 9 cases or even branched or simple staghorn in 3 cases. The pelvis was intrarenal in 8 cases.

Posterior lumbotomy were used in 9 obese or muscular males and 6 obese females. However no difficulty were encountered intraoperatively when lateral relaxed position was attained, lurz or modified technique was followed, and finochietto self-retaining retractor was used. Further more, the last rib was resected subperiosteally when further exposure or cephalad extension was required. This incision was also used in 2 cases with a prior flank procedures on the ibsilateral side without extradifficulty or specific intraoperative complication.

The average operative time for posterior lumbotomy patients was 73.3 minutes and 108 minutes for those of the flank incision. The intraoperative complication were encountered in 6 patients (17.7%) of lumbotomy group and in 4 patients (20%) of the flank incision group however non of them were directly related to the incisions except in 1 case who had injury of subcostal vessels during cutting of the costoverteberal ligament through posterior lumbotomy incision. 79.9% of the posterior lumbotomy group were mobilized within the thirty postoperative hours. In contrast, only 40% of the flank incision patients were mobilized within the same period. During the first 25 hours after surgery 91.3% of posterior lumbotomy patient
were consumed oral feeding while only 35% of the flank incision patients tolerate oral feeding during that interval. As regard the postoperative number of parenteral analgesia 14.3% of posterior lumbotomy patients need no postoperative analgesia which was not met with in the flank incision patients, in addition the average number of doses required by lumbotomy and flank incision were 1.8 and 4.5 doses respectively.

The postoperative complication were encountered in 17.1% (6 patients) of lumbotomy patients and in 30% (6 patients) of the flank incision group, however, non of them were directly related to each of the incisions. Postoperative urinary drainage had an average of 2.8 for lumbotomy and 4.75 days for those of the flank approach. 60% of the lumbotomy patients (21 patients), were discharged from the hospital on the 3rd postoperative day which was not met with for flank incision, further more, the posterior lumbotomy patients had a postoperative hospitalization averaged 3.6 days less than the flank incision patients.

Patients with upper urinary tract calcular diseases got free from the target stone(s) in each group. However only one patients (3%) of lumbotomy group had a residual stone. On the other hand, 3 patients (15.9%) of the flank incision group had missed residual stones. Decreased
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percent of missed residual stones with lumbotomy perhaps due to the direct approach it allows, suitable direction of the calyces in relation to both of the wound and surgeon or due to shifting of the difficult and complicated calculus cases to be approached through the flank.

So, we could say that, posterior lumbotomy is a fast, easy, relatively painless and minimally traumatic approach to the kidney and upper ureter. The working space is relatively limited than the flank approach. However, by proper positioning of the patients on the operating table, selection of either lurz or modified technique, a satisfactorily exposure will be obtained. In addition, resection of the last rib and usage of finochietto self-retaining retractor will be provide a wider exposure that may be nearly resemble the flank exposure. This is allow its usage for obese or muscular patients, recurrent cases, patients with large size, branched, simple staghorn stone(s) or patients with high-lying kidneys without intraoperative extradifficulty.

Because of marked decrease of operative room time, minimal postoperative morbidity and short hospital stay postoperatively, posterior lumbotomy is a cost-effective approach and is considered to be an alternative to P.C.N in less equipped hospitals and in poor countries.