Results

(A) Patients' characters of both groups A&B were tabulated in tables (6-9) and presented in figures (51- 54).

Table (6): Sex of the patients in both groups**.**

			Sex		
			Conventional	**Mini**	**Total**
Female		N	12	13	25
		%	40	43.3	41.7
Male		N	18	17	35
		%	60	56.7	58.3
Total		N	30	30	60
		%	100	100	100
Chi-Square	X^2		**0.536**		
	P-value		**0.417**		

Fig. (51): Sex of the patients in both groups**.**

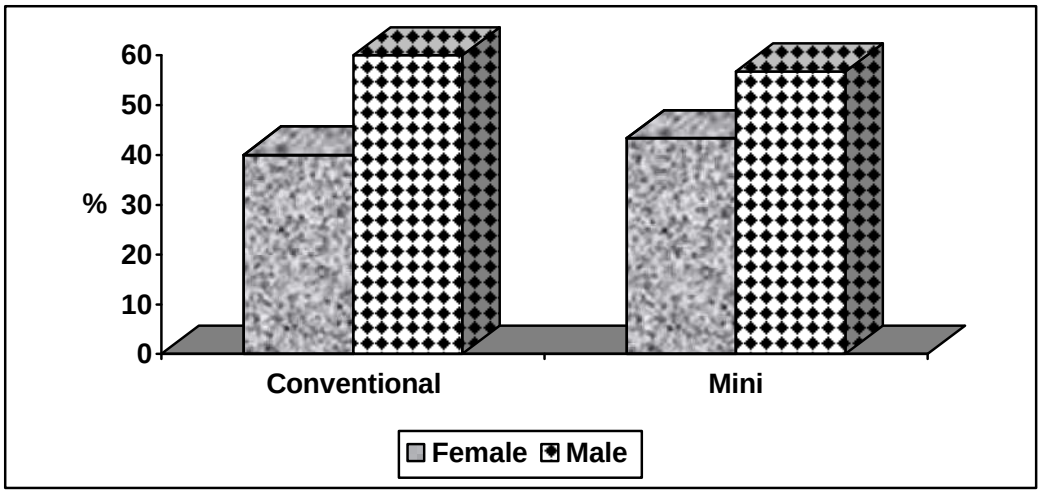


Table (7): Age of the patients in both groups**.**

Age	Conventional N=30	Mini N=30
Mean (y)	31.9	31.2
±SD	5.32	6.41
t. test	**0.523**	
p. value	**0.412**	

Table (8): BMI of the patients in both groups**.**

BMI	Conventional N=30	Mini N=30
Mean (kg/sq.m)	27	25.4
±SD	2.32	3.22
t. test	**1.247**	
p. value	**0.149**	

Table (9): Previous renal surgery of the patients in both groups.

			Previous renal surgery		
			Conventional	**Mini**	**Total**
No		N	25	27	52
		%	83.3	90	86.7
yes		N	5	3	8
		%	16.7	10	13.3
Total		N	30	30	60
		%	100	100	100
Chi-Square	X^2		**0.558**		
	P-value		**0.447**		

Tables from (6-9) and figures from (51-54) show demographic data of the studied cases (total number was 60 patients divided into 2 groups A and B), mean age in group A was 31.9 ±5.32 (range 20-65) and in group B was 31.2 ±6.41 (range 6-60) . BMI in Kg/sq.m (mean ± SD) was 27±2.32 (range 25- 33kg/m2) in group A and 25.4±3.22 (range 20- 35.5kg/m2) in group B . The study included 18 males (60%) and 12 females (40%) in group A , 17 males (56.7%) and 13 females (43.3%) in group B. 5 patients (16.7%) had previous renal stone surgery in group A and 3 patients (10%) had previous renal stone surgery in group B.

Fig. (52): Age of the patients in both groups.

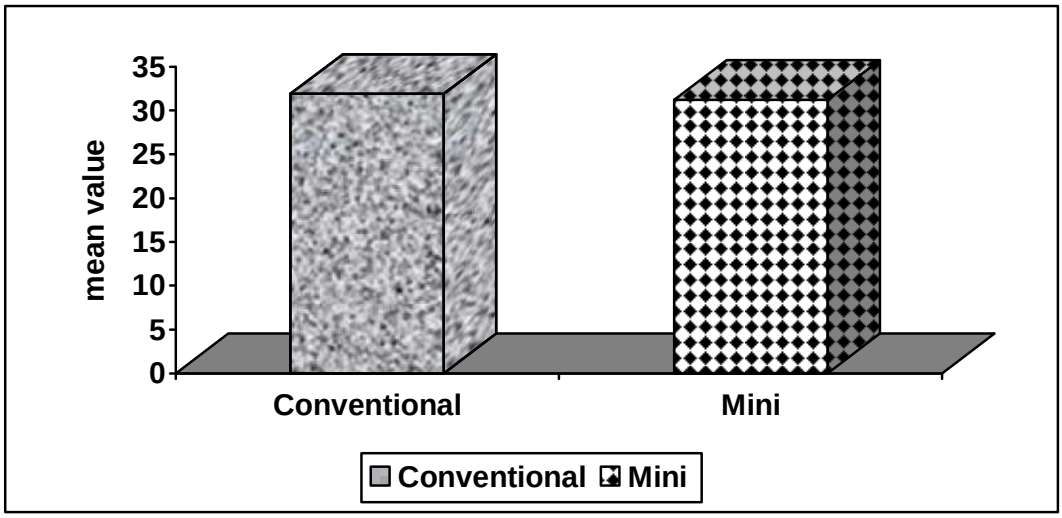


Fig. (53): BMI of the patients in both groups.

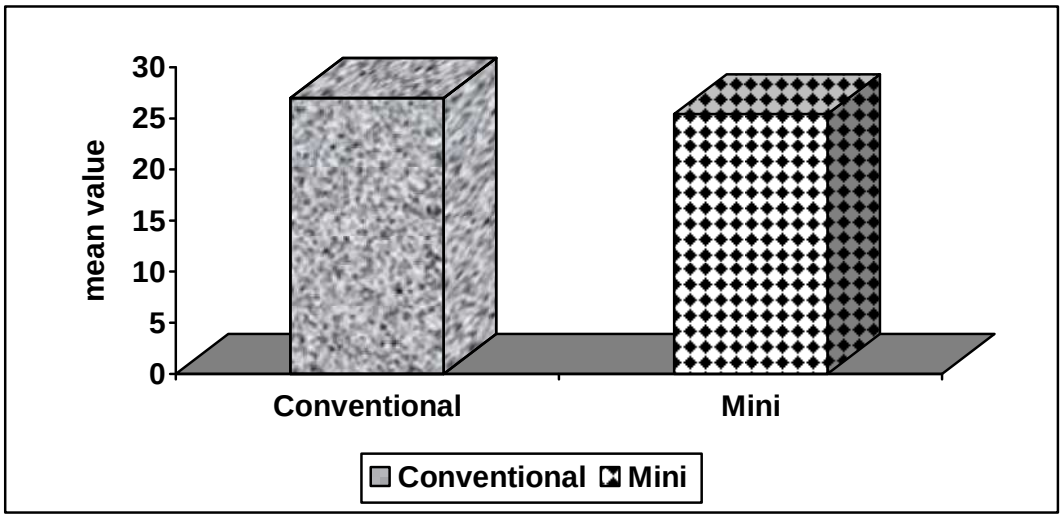
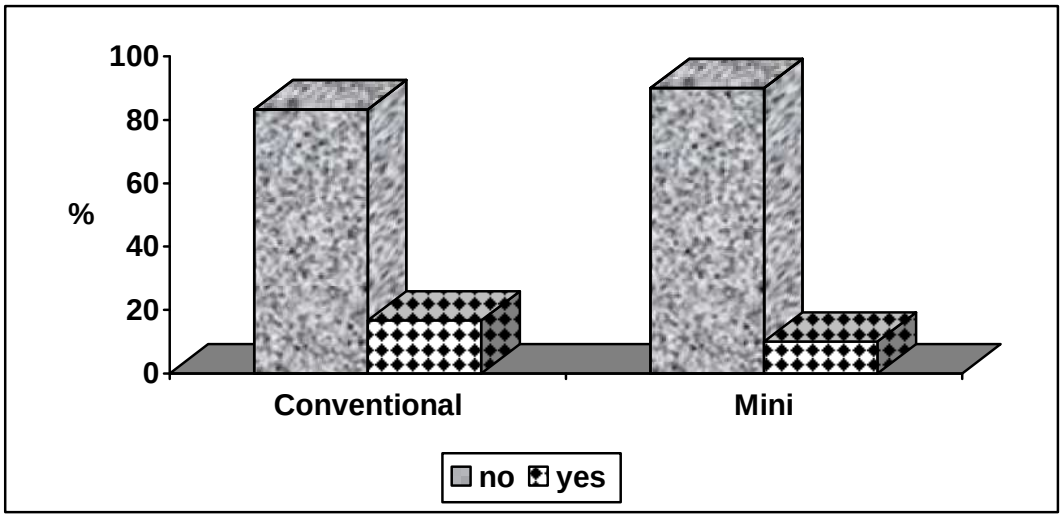


Fig. (54): Previous renal surgery of the patients in both groups**.**



(B) Stones characters of both groups A&B were tabulated in tables (10-12) and presented in figures (55- 57).

Fig (55): Stone side in both groups**.**

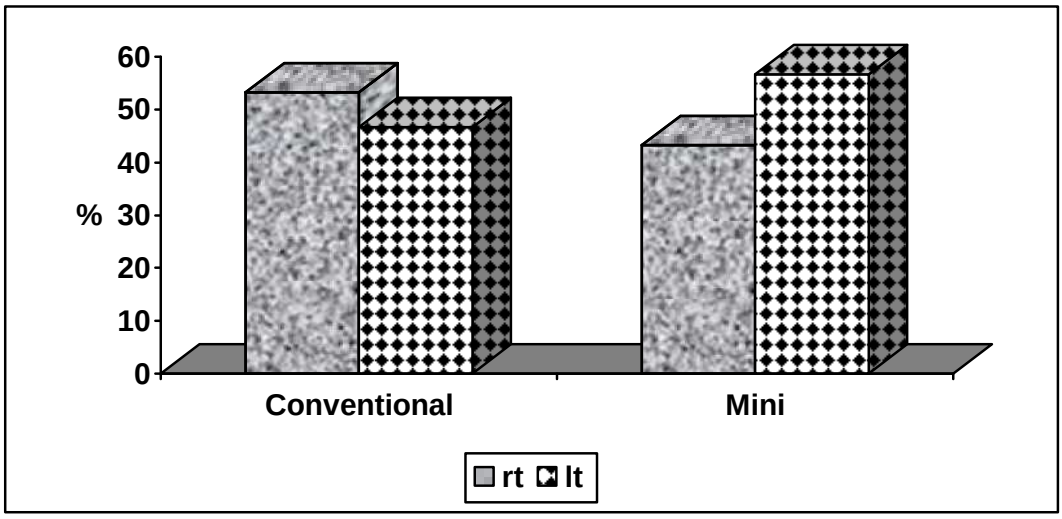


Table (10): Stone side in both groups**.**

			Stone side		
			Conventional	**Mini**	**Total**
Rt.		N	16	13	29
		%	53.3	43.3	48.3
Lt.		N	14	17	31
		%	46.7	56.7	51.7
Total		N	30	30	60
		%	100	100	100
Chi-Square	X^2		**0.601**		
	P-value		**0.438**		

Table (11): Stone radio-opacity in both groups**.**

			Stone radio-opacity		
			Conventional	**Mini**	**Total**
Lucent		N	4	5	9
		%	13.3	16.7	15
Opaque		N	26	25	51
		%	86.7	83.3	85
Total		N	30	30	60
		%	100	100	100
Chi-Square	X^2		**0.135**		
	P-value		**0.717**		

Table (12): Stone site in both groups.

			Site of the stone		
			Conventional	**Mini**	**Total**
Pelvis		N	18	16	34
		%	60	53.3	65.6
Upper		N	1	1	2
		%	3.33	3.33	3.33
Middle		N	3	4	7
		%	10	13.33	11.66
Lower		N	8	9	17
		%	26.66	30	28.3
Total		N	30	30	60
		%	100	100	100
Chi-Square	X^2		**0.320**		
	P-value		**0.963**		

Tables from (10-12) and figures from (55-57) show stone characteristics of both groups. As for stone side, 16 cases (53.3%) cases were on the right Side and 14 cases (46.7%) on the left in group (A) but in group (B) 13 cases (43.3%) cases were on the right Side and 17 cases (56.7%) on the left. For stones radio- opacity there were 26 (86.7%) radio-opaque stones and 4 (13.3%) radio-lucent stones in group (A), but in group (B) there were 25 (83.3%) radio-opaque stones and 5 (16.7%) radio-lucent stones. For stones site there were 18 (60%) pelvic stones, 12 cases (40%)

had calyceal stones (1 upper, 3 middle and 8 lower calyx) in group (A), but in group (B) there were 16 (53.3%) pelvic stones, 14 cases (46.7%) had calyceal stones (1 upper, 4 middle and 9 lower calyx).

Fig. (56): Stone radio-opacity in both groups

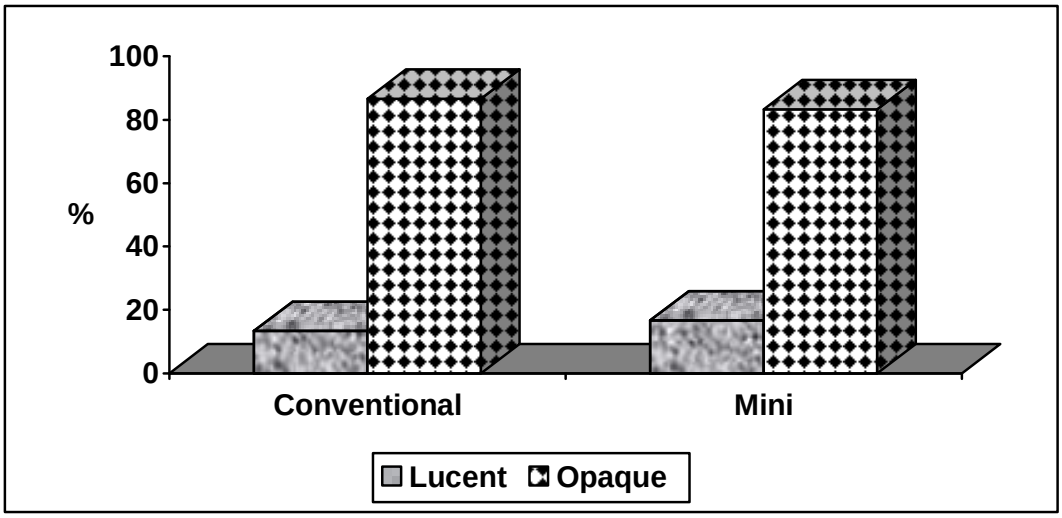
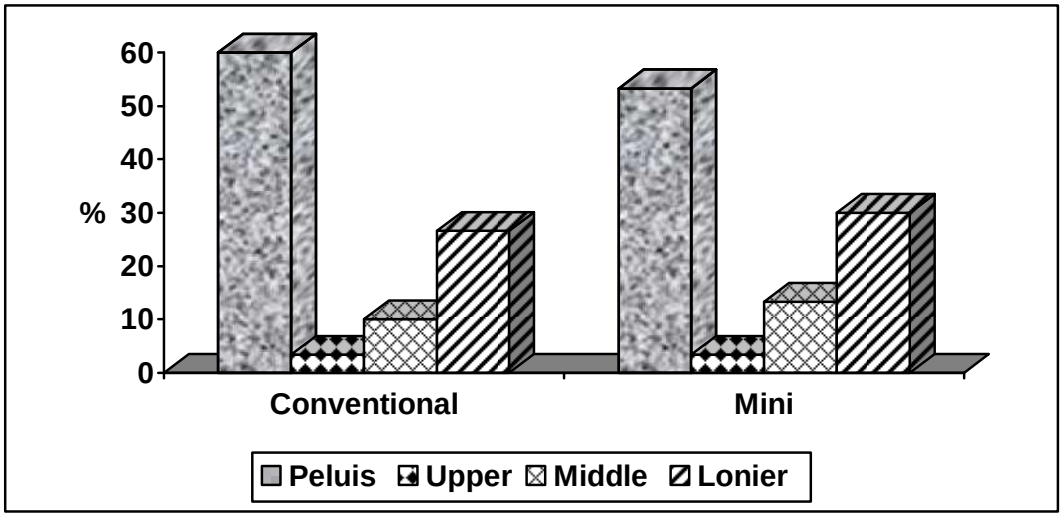


Fig. (57): Stone site in both groups.



(C) Intra-operative data of both groups A&B were tabulated in tables (13-16) and presented in figures (58&59).

Table (13): Need for blood transfusion in both groups**.**

Blood transfusion	Need for transfusion	Number of units
Conventional	2	1
		1
Mini	0	0

Table (14): Operative time in both groups**.**

Operative time	Conventional N=30	Mini N=30
Mean (min)	89.2	108
±SD	12.36	15.63
t. test	4.369	
p. value	0.025	

Table (15): fluoroscopic time in both groups**.**

Fluoroscopic time	Conventional N=30	Mini N=30
Mean (min)	3.3	2.2
±SD	0.67	0.41
t. test	**3.968**	
p. value	**0.038**	

Table (16): Intra-operative morbidity in both groups**.**

		Intra-operative morbidity		
		Conventional	**Mini**	**Total**
present	N	2	1	3
	%	6.7	3.3	5
absent	N	28	29	57
	%	93.3	96.7	95
Total	N	30	30	60
	%	100	100	100
Chi-Square	X^2	**0.123**		
	P-value	**0.617**		

Fig. (58): Operative time in both groups**.**

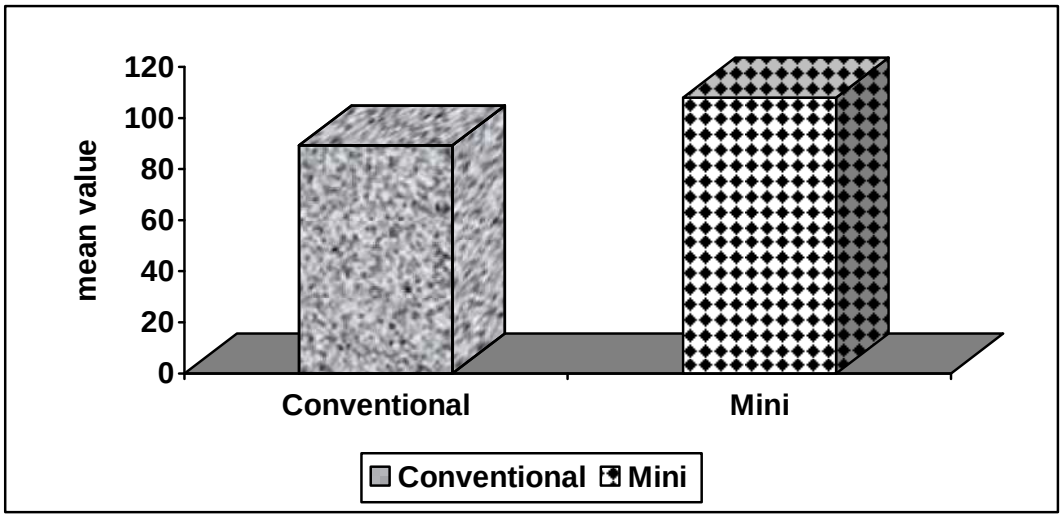
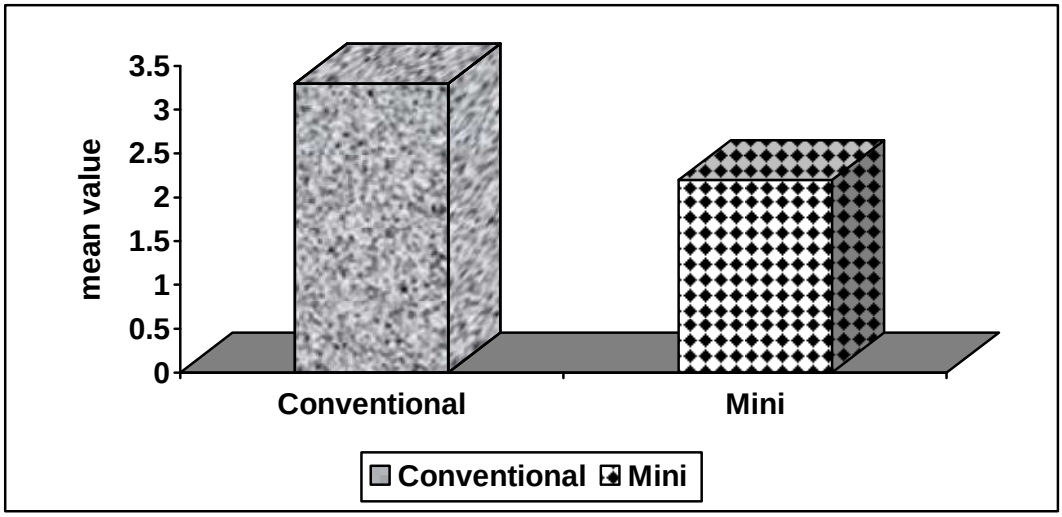


Fig. (59): fluoroscopic time in both groups**.**



Tables from (13-16) and figures (58,59) show intra-operative data in both groups as regard to fluoroscopic time which was longer in group (A) than in group (B),in group (A) (mean ± SD) was 3.3±0.67 (range 1.5-8 min.) but in group (B) (mean ± SD) was 2.2±0.41 (range 1-5min.), P value < 0.05 with a significant statistical differences between the 2 groups which may be due to more time needed for dilatation to the diameter of the conventional nephroscope in group (A).

Intra-operative morbidity of the group (A) were 2 cases (6.7 %). The 2 cases had a significant bleeding required blood transfusion, one unit for each case. 1 case lost the tract due to loss of both guide wires and we put a drain and leaved the ureteric catheter for 2nd lock PCNL. The other case the bleeding happened during dilatation and we put a tube as temponad and the case completed in another cession.

While intra-operative morbidity of group (B) occurred in one case (3.3%) as pelvic perforation and extravasation which happened during dilatation, it was small perforation so the case completed and we put jj at the end of the operation.

There was no visceral injury in both groups, with no significant statistical differences between the 2 groups.

Operative time was longer in group (B), (mean ± SD) was 108±15.63,(range 90-130 min.),than in group (A) (mean ± SD) was 89.2±12.36,(range 70-110 min), P value < 0.05 with a significant statistical differences between the 2 groups due to the need for more fragmentation of the stones in group (B) due to the small caliber of the tract.

(D) Post-operative data and complications of both groups A&B were tabulated in tables (17-20) and presented in figures (60- 62).

Table (17): postoperative heamatocrite drop in both groups**.**

Heamatocrite drop	Conventional N=30	Mini N=30
Mean (%)	6.4	4
±SD	1.55	1.09
t. test	2.362	
p. value	0.048	

Table (18): postoperative analgesia in both groups**.**

Postoperative analgesia	Conventional N=30	Mini N=30
Mean (mg)	132.5	89.8
±SD	16.39	8.52
t. test	8.374	
p. value	0.002	

Table (19): postoperative complications in both groups**.**

		Complication	
		Conventional	**Mini**
Need for blood transfusion	N	2	0
	%	6.7	0
Post operative fever	N	5	3
	%	16.6	10
Post operative UTI	N	3	2
	%	10	6.7
Prolonged leakage	N	2	1
	%	6.7	3.3
Chi-Square	X^2	**2.149**	
	P-value	**0.785**	

Table (20): stone free rate in both groups**.**

Stone free rate	**stone free rate**
Conventional	96.6%
Mini	96.6%

Tables from (17-21) and figures from (60-62) show postoperative data and complications in both groups , the heamatocrite drop was higher in group (A), (mean ± SD) was 6.4±1.55 (range 5-7.5) than in group (B), (mean ± SD) was 4±1.09 (range 3.5-5), P value < 0.05 with a significant statistical differences between the 2 groups which may be due to more dilatation in group (A).

Postoperative analgesia in the 1st day postoperative more in group (A) than (B), we used declophenac sodium injection, in group (A) (mean ± SD) was 132.5±16.39 (range 75-150 mg.) but in group (B) (mean ± SD) was 89.8±8.52 (range 60-125 mg.), P value < 0.05 with a significant statistical differences between the 2 groups which may be due to the wide caliber of the nephrostomy left in group (A) than in group (B).

Postoperative complications occurred as : need for blood transfusion in 2 (6.7%) cases in group (A) and no case need blood transfusion in group (B).

Postoperative fever occurred in 5 (16.6%) cases in group (A) and 3 (10%) cases in group (B).these cases treated by antipyretics. Urinary tract infection occurred in 3 (10%) in group (A) and in 2 (6.7%) cases in group (B),these cases treated by proper antibiotic according to culture and sensitivity.

Prolonged leakage occurred in 2 (6.7%) cases in group (A) and 1 (3.3) case in group (B) after removal of the nephrostomy tube, 2 of these cases improved conservatively but one case required jj insertion after one

week and then improved. The postoperative complications were comparable in the 2 groups with no significant statistical differences between them.

Stone free rate was (96.6%) in the 2 groups with no significant statistical differences between them. As there was one case with residual gravels more than 0.5 cm. in group (A) and needed 2nd look for extraction. Another case was in group (B) but the residual gravel was about 0.5 cm. and passed with medical treatment.

Fig. (60): postoperative heamatocrite drop in both groups**.**

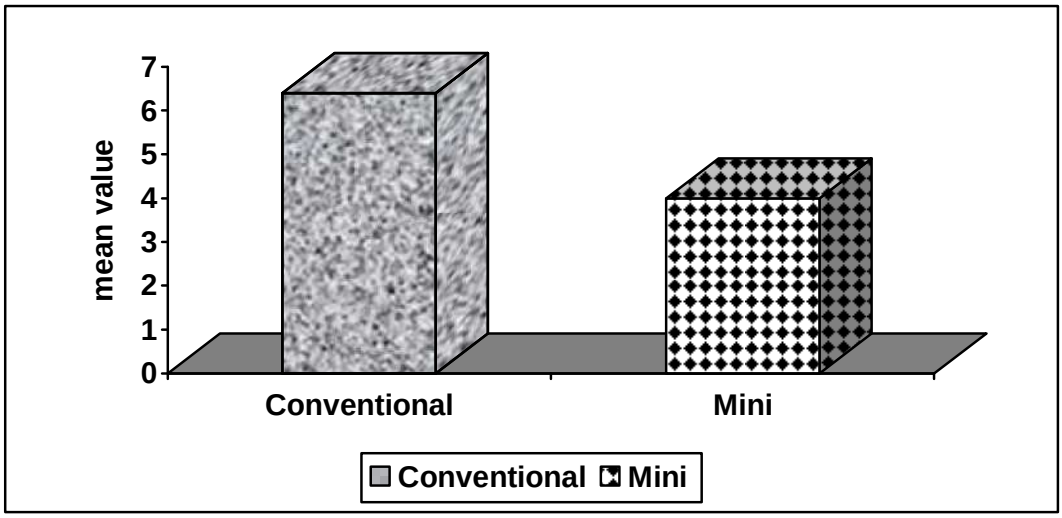


Fig. (61): postoperative analgesia in both groups**.**

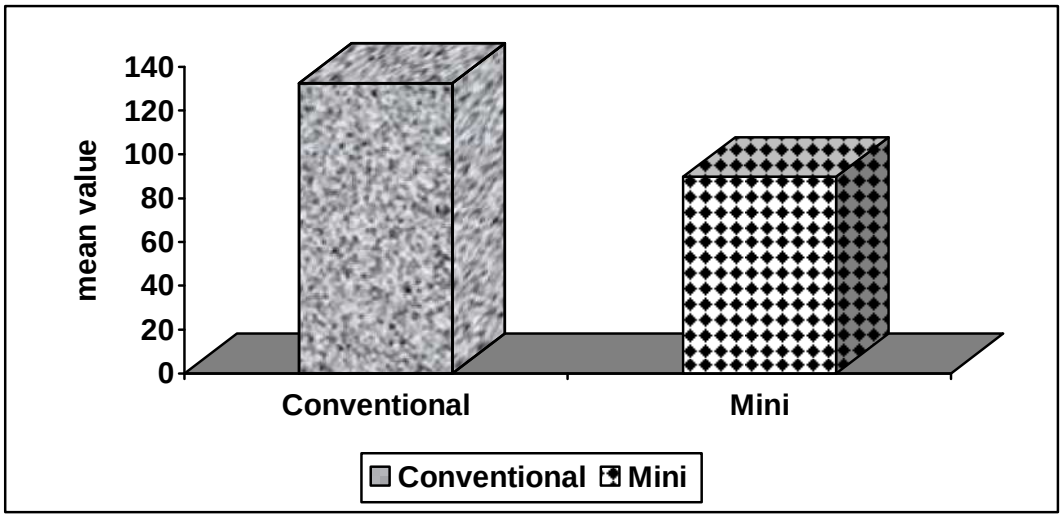


Fig. (62): postoperative complications in both groups**.**