

prítom sledujeme nutnosť využitia auxiliárnych postupov a počet intervencií ESWL nutných pre kompletnú sanáciu konkrementu.

Výsledky: Pri USG zameriavaní bola SFR na úrovni 90%. Primerný počet intervencií 1,3. RTG-fokusácia: kumulatívne skupina Sonolith-i-sys plus Medilit 7: bola zistená hodnota SFR 90% pri 1,5 dobách. Signifikančný rozdiel v počte ESWL tak nebol zistený $\alpha = 0,105$. Rovnaká situácia nastala pri porovnaní frekvencie prevedenia auxiliárneho postupu – zavedenia stentu alebo ureterorenoskopie $\alpha = 0,453$, zatiaľ čo pri kumulatívnej radiačnej záťaži je rozdiel signifikantný, podobne ako v prípade potreby analgetika bola taktiež signifikantne nižšia ($\alpha < 0,001$) u USG fokusácie. Miera prezencie operátora pri intervencii bola signifikantne väčšia u USG ramena.

Záver: Výsledky našej štúdie deklarujú rovnocennosť oboch zobrazovacích modalít z hľadiska efektivity. USG navigácia by mala byť predovšetkým s ohľadom na odbúranie radiačnej záťaže pre pacienta preferovanou formou zameriavania konkrementov pri realizácii ESWL.

KLÚCOVÉ SLOVÁ

Efektivita, extrakorporálna litotripsia rázovou vlnou, radiačná záťaž, ultrasonografia, urolitiáza

SUMMARY

Motolová M, Král M. Ultrasound guidance versus fluoroscopic targeting of urolithiasis by extracorporeal shock wave lithotripsy.

Aim: Efficacy comparison of two localization techniques using ESWL – exclusively real time ultrasound or fluoroscopy. Demonstration of at least equivalence of both techniques. To publicize the advantages of real-time ultrasound guidance to encourage more departments in develop of this modality.

Methods: This bicentric retrospective study compares stone free rates (SFRs) in three selected groups of patients with similar characteristics. Inclusion criteria: ESWL as primary intervention for nephrolithiasis, proximal or prevesical ureterolithiasis. The definition of stone free was a patient without any residual stone or the absence of frag-

ments ≥ 2 mm. The arm with exclusively real-time USG targeting of urolithiasis contains a group of 120 patients, using electromagnetic lithotripter – STORZ SLK between 02/2017–02/2020. The fluoroscopy-arm includes two groups: 72 patients, using electroconductive lithotripters: Sonolith-i-sys (EDAP) between 04–10/2017 and 68 patients, by using electrohydraulic lithotripter Medilit 7 between 01/2016–03/2017. Simultaneous evaluation of requisite for auxiliary techniques and number of sessions for complete stone-desintegration.

Results: SFR was 90% in the USG-guided group. The average number of ESWL sessions was 1,3. SFR in the fluoroscopic arm: the group-Sonolith-i-sys plus the group Medilit 7 was 90%. The average number of ESWL sessions was 1,5. These results were not significantly different $\alpha = 0,105$. The same result is shown on comparison of frequency of requirement for auxiliary techniques – DJ-stent insertion/ureterorenoscopy $\alpha = 0,453$. Radiation exposure was the biggest difference between techniques, as well as analgesics requirement which were significantly lower in USG arm ($\alpha < 0,001$). The operator presence-time was significantly longer in USG – guided ESWL.

Conclusion: Our study shows efficacy equivalence of outcomes of both localization modalities. Real-time USG guidance should be primarily used to reduce radiation exposure for patients undergoing ESWL.

KEY WORDS

Effectivity, extracorporeal shock wave lithotripsy, radiation exposure, ultrasonography, urolithiasis.

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ÚVOD

Fluoroskopické zameriavanie lithiasy bolo po dlhé roky zlatým štandardom pri realizácii ESWL. V posledných rokoch sa čoraz viac dostáva do popredia ultrasonografia. USG sondy sa kontinuálne vyvíjajú, ponúkajú stále lepšiu rozlišovaciu schopnosť. Spolu s prídavným softwérom a high-tech príslušenstvom