SUMMARY

Up to 33% of women referred to gynecological outpatient clinics have AUB, and this proportion rises to 69% in a perimenopausal or postmenopausal group. Local causes include fibroids, endometrial polyps, cervical polyps, endometrial hyperplasia and endometrial carcinoma ***(Kelekci et al., 2005).***

Transvaginal ultrasonography is increasingly used as a first line of investigation of patients with AUB. The uterus and the ovaries can be visualized clearly, and their pathological lesions can be identified. However, reports on the diagnostic accuracy of it are conflicting ***(Kelekci et al., 2005).***

Saline infusion sonography is a relatively new diagnostic technique, in which the uterine cavity is distended thereby enabling the visualization of endometrial surface***(Kelekci et al., 2005).***

The introduction of intrauterine endoscopy has allowed clinicians to evaluate an area of the body that was previously accessible only by the procedure of blind dilatation and curettage. The use of hysteroscopy has been most common in the evaluation of abnormal uterine bleeding ***(Alkamil, 2001).***

Diagnostic hysteroscopy for diagnosis and management of abnormal uterine bleeding has developed as an easy performed procedure with minimal discomfort and significantly reduced risks and expenses. The procedure is a fast ,effective , and much more precise way to detect intra uterine abnormalities ,as well as to better define the correct plan for any proposed operative management ***(Brooks, 2007).***

Our study aimed to compare the diagnostic accuracy of transvaginal sonography, saline infusion sonohysterography, and diagnostic hysteroscopy in cases of abnormal uterine bleeding.

The present study included 50 patients admitted to Benha University hospital, department of Obstetrics and Gynecology with AUB in the period from April 2007 to April 2009.

Different patterns of AUB were observed in the study group as shown in table (1). 28cases(56%) were complaining of menorrhagia, 10 cases(20%) were complaining of metorrhagia, 5 cases (10%) were complaining of menomettorrhagia, 3 cases (6%) were complaining of polymenorrhia, 2 cases(4%) were complaining of inter menstrual bleeding and 2 cases (4%) were complaining of post menopausal bleeding.

Endometrial thickness was evaluated using TVS and SIS. As regards TVS, endometrial thickness ranged from 2 to 20 mm. the mean endometrial thickness ± SD was 12.296 ±5.61mm. SIS revealed that endometrial thickness has ranged between 2 and 18 mm with the mean ± SD equal 11.185±4.47 mm.

Comparing the values of endometrial thickness measured by TVS and SIS revealed statistically significant higher values for TVS ($p<0.001$) and there was a strong positive correlation between TVS and SIS in measuring the endometrial thickness.

As regards diagnosis of endometrial polypi, TVS has detected polypi in 10 cases out of 50 cases of the study, SIS has detected polypi in 18 cases while DHS has detected polypi in 18 cases of the study group.

There was a strong positive correlation between endometrial thickness measured by TVS and that measured by SIS.

As regards diagnosis of endometrial polypi, TVS has detected polypi in 10 cases out of 50 cases of the study, SIS has detected polypi in 18 cases while DHS has detected polypi in 18 cases of the study group.

Comparing the detection of endometrial polypi between TVS, SIS and DHS; there was a significant difference between TVS and DHS, a significant difference between TVS and SIS; but no significant difference between SIS and DHS.

Taking DHS as a gold standard in the diagnosis of endometrial polypi, TVS showed a sensitivity of 44, 4% and a specificity of 93, 75%, positive predictive value of 80% and negative predictive value of 75% while SIS showed a sensitivity of 88, 8% and a specificity of 87, 5%,

positive predictive value of 80% and negative predictive value of 93.44% in the diagnosis of endometrial polypi.

As regards the diagnosis of sub mucous myomas, TVS has detected myomas in 3 cases, SIS has detected myomas in 4 cases while DHS has detected myomas in 3 cases of the study group.

Comparing the detection of sub mucous myomas between TVS, SIS and DHS; there was no significant difference between them.

Taking DHS as a gold standard in the diagnosis of sub mucous myomas, TVS show a sensitivity of 66, 66% and a specificity of 95, 45%, positive predictive value of 66, 66% and negative predictive value of 94.66% while SIS showed a sensitivity of 100% and a specificity of 95, 45% positive predictive value of 75% and negative predictive value of 100% in the diagnosis of sub mucous myomas.

D & C biopsy was performed for all patients, one case showed inadequate sample possibly due to a technical error in collecting it and this case was excluded from our study. According to histopathological diagnosis, cases were classified into four major groups including, normal endometrium, endometrial hyperplasia, endometrial atrophy and endometrial carcinoma.

Taking D&C biopsy as a gold standard for diagnosis, sensitivity, specificity, +ve predictive value and –ve predictive value of TVS, SIS and DHS were calculated in different groups of endometrial histopathology.

Regarding cases of endometrial hyperplasia, sensitivity, specificity, +ve predictive value and –ve predictive value for TVS were 27%, 100%, 100% and 70% respectively, for SIS were 27.7%, 100%, 100% and 70% respectively and for DHS were 88.2%, 94%, 88.2% and 94% respectively .

Regarding cases of endometrial atrophy, sensitivity, specificity, +ve predictive value and –ve predictive value for TVS were 100%, 60%, 14% and 100% respectively , for SIS were 100%, 54%, 12.5% and 100% respectively and for DHS were 100%, 67%, 16% and 100% respectively .

Regarding cases of endometrial carcinoma , sensitivity, specificity, +ve predictive value and –ve predictive value for TVS were 0%, 100%, 0% and 94% respectively, for SIS were 0%, 100%, 0% and 94% respectively and for DHS were 33%, 100%, 100% and 94% respectively .

In conclusion, SIS is a useful tool in the diagnosis of AUB through detecting intra cavitary lesions such as polyps and myomas that may be missed during the traditional TVS examination. It is almost as effective as the invasive DHS with out pain or complications.

However, for diagnosis of endometrial histopathology DHS appears to be more accurate regarding sensitivity and specificity than TVS and SIS.

Due to the relative low accuracy of DHS in diagnosis of endometrial carcinoma (sensitivity = 33%), routine hysteroscopic directed biopsy is recommended for all patients especially in cases suspicious for endometrial carcinoma.