

Journal homepage:http://www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH

RESEARCH ARTICLE

POSTABORTION HYSTEROSCOPY: A METHOD FOR THE DIAGNOSIS OF CONGENITAL AND ACQUIRED INTRAUTERINE CAUSES OF ABORTION.

Mahmoud M. Rizk fayed, Ahmed. E. Mansour, Tamer Assar, Walaa Hawash.

.....

Manuscript Info	Abstract							
Manuscript History:	Objective:-Recurrent pregnancy loss is often defined as three or more							
Received: 11 January 2016 Final Accepted: 26 February 2016 Published Online: March 2016	consecutive pregnancy losses but there are no strict criteria for initiation of investigations after a miscarriage. We evaluated the role of diagnostic hysteroscopy in diagnosis of congenital and acquired intrauterine causes of abortion and the possibility of starting this investigation after one							
Key words:	miscarriage.							
Hysteroscopy –Recurrent abortion – uterine anomalies.	Study design:- 80 patients underwent diagnostic hysteroscopy after one, two or three consecutive abortions or more							
*Corresponding Author	of three consecutive abortions of more.							
MahmoudM. Rizk fayed.	Results: -Normal hysteroscopic findings were the most common findings in (52.5%) of the patients, Abnormal hysteroscopic findings were found in 47.5% of patients, congenital uterine anomalies were present in 15% and acquired uterine anomalies in 32.5%. By evaluating the congenital changes in the uterine cavity, the following diagnoses were found, septate uterus (n= 6)(7.4%), subseptate uterus(n=3)(3.8%),and bicornuate uterus(n=3)(3.8%).							
	By considering the acquired anomalies, the most frequent diagnoses were: intrauterine adhesion (n = 10(12.5%), polyp (n =8)(10%), leiomyoma (n =8)(10%).we did not found any statistically significant difference between the number of miscarriage and pathological finding of diagnostic hysteroscopy.							
	Conclusion . Destabortion hystoresecony is a simple and afficient tool in							

Conclusion:- Postabortion hysteroscopy is a simple and efficient tool in early diagnosis of congenital and acquired intrauterine pathologies especially if done without anesthesia and can be done after the first miscarriage.

Copy Right, IJAR, 2016,. All rights reserved.

Introduction:-

Spontaneous abortion is defined as a clinically recognized pregnancy loss before fetal viability. The world Health Organization (WHO) defined it as expulsion of fetus weighting 500 gm or less (1).Spontaneous abortion is the most common complication of early pregnancy. (2). Eighty percent of these abortions occur in the first 12 weeks of gestation. (3). More than half of the embryos miscarried in this period are due to chromosomal abnormalities. (4). In the second trimester, pregnancy losses may be due to uterine malformations, uterine fibroids, or cervical problems.(5).Prevalence of anatomical abnormalities in patients with repeated miscarriages is high, ranging from 6.3% to 67%, depending on the type of the study and the study population. (6).

Anatomical abnormalities can be classified as congenital (disorders of mullerian tract) and acquired (adhesions, cervical incompetence, polyps, and uterine myomas). Although some anomalies may have little to no effect on pregnancy outcome, others may cause recurrent pregnancy loss.(6).Hysteroscopy is the gold standard for the evaluation of the endometrial cavity, since it enables direct visualisation of the endometrium.Many congenital and acquired uterine abnormalities can be detected and treated hystroscopically, resulting in improved pregnency outcomes.(7).

Patients and Method:-

This prospective observational study was done at Benha University Hospital in the period from february2014 to June2015.

Subjects:-The study included 80 cases divided into 2 groups:Group (A): 40 cases of one or two spontaneous abortions.Group (B): 40 cases of three consecutive spontaneous abortions or more. (recurrent abortion).

Exclusion criteria:- patients known to be diabetic or have previously diagnosed endocrine disease, patients known to have antiphosphlipid syndrome, sexually transmitted diseases, pelvic inflammatory diseases, active vaginal bleeding& pregnancy.

Methods:-Informed consent obtained from the women, all patients were subjected to full history taking including Personal history, Menstrual history, Obstetric history, Present history, Past history& Medical history, general examination to exclude any medical disease, complete abdominal examination, complete pelvic examination including; bimanual examination and speculum examination, Preoperative routine investigations include{ CBC, Urine analysis, RH, Random blood glucose level, Serum TSH, Serum prolactin, Anticardiolipin (IgG, IgM)}.

All patients were subjected to Diagnostic hysteroscopy in Benha University Hospital, Obs/Gyn department Operative theatre using (KarlStorz, Germany) hysteroscope, hysteroscopy was done postmenstrual within 3-6 months following abortion, Misoprostol 200mcg was administrated vaginally to every patient two hours before the procedure to facilitate the introduction of hysteroscope, hysteroscopy was done under general anesthesia.

Instruments:-Diagnostic hysteroscopy (DHS) was performed, using a continuous-flow hysteroscope; consist of 30°, 2.0 mm HOPKINS II telescope, 2.8 mm examination sheath and 3.6 mm outer sheath for continuous suction and irrigation (Karl Storz, Germany).

Light Source:-Xenon cold light fountain 482 (Karl Storz, Germany) was used with 100 watt xenon lamp connected to a fiber optic light cable.

Distention Medium:-Normal saline 0.9% was used for the distention of uterine cavity, by the gravity-fed method.

Documentation and video monitoring: A reflex camera (Promise), with an objective that; has a focal length that varies from F 70 to F 140, together with a Karl- Storz special zoom lens was used .

Technique:-The procedure was done under general anaesthesia, Patients were placed in the lithotomy position, A vaginal disinfection withPovidone-iodine10%, Vaginal speculum was used to facilitate anteroposterior manipulation of the hysteroscope, The cervix was then, grasped with a volsellum and cervical dilatation was done when needed, The hysteroscope was introduced through the cervical canal under vision. The uterine cavity was distended with saline with pressure cuff at 80 - 100 mmHg. The uterine cavity was systematically explored by rotating the hysteroscope in order to identify any anomaly in the uterine walls and/or the right and left tubal Ostia.If any congenital uterine anomalies or any focal lesions were detected, the type of the anomalies and the shape, site, and size of the focal lesions were recorded.

Results:

The study was done at Benha university hospital on 80 patients 40 of them suffered from one or two abortions (Group A) & the other half suffered from three or more abortions; Recurrent abortion (Group B), Diagnostic hysteroscopy was done to identify any anatomical causes of abortion and the following results were obtained: The age of the patients varied between 20 and 40 years with majority (41.2%) of cases aged between (25-30) years. The number of previous deliveries varied from 0 to 3 deliveries. Of the 80 women, 12 (15.0%) had congenital anomalies while 26 (32.5%) had acquired pathologies. Among all the patients, 42 (52.5%)had no pathological findings on hysteroscopy. Hysteroscopic findings are found as following, 6 patients (7.4%) had a septate uterus, 3 patients (3.8%) had bicornuate uterus, 10(12.5%) had intrauterine adhesions, 8(10%) had submucous myoma, 8(10%)had intrauterine polyp. Patients were compared according to their miscarriage number, uterine pathology type, and frequency. Among patients who had two or less miscarriage (Group A) 23(57.5%) had

no pathological findings, 6(15.0%) had congenital anomalies, 11(27.5%) had acquired pathology. Among patients with recurrent abortion (Group B) 19 (47.5%) had no pathological findings, 6(15.0%) had congenital anomalies, and 15(37.5%) had acquired pathologies, There was no statistically significant difference between the number of miscarriages and abnormal hysteroscopic findings (p>0.05) (table 1). According to time of occurance of abortions, 61 patients had 1st trimester abortions of them 31 patients had no anatomical abnormality, 9 had congenital anomalies and 21 had acquired pathologies. 19 patients had second trimester abortions, of them 11 patients had no abnormality, 3 had congenital anomalies and 5 had acquired pathologies. There was no significant difference between group A and group B as regard the hysteroscopic findings (table 2).

Table 1: Distribution of abortions cases according to abnormal hysteroscopic findings among the studied group of patients (n=80).

Abnormal		Abor	rtion (n)		Total		χ^2 test	P value
hysteroscopic findings	Group	(A) n=40	Group (B)					
	(50%)		n=40(50%)		(n=80)			
	NO.	%	NO.	%	NO.	%		
Congenital anomaly:	6	15.0	6	15.0	12	15.0	0.05	0.82 NS
Septate uterus	3	7.5	3	7.5	6	7.4	0.02	0.88 NS
Subseptate uterus	3	7.5	0	0.0	3	3.8	2.93	0.09 NS
Bicornuate uterus	0	0.0	3	7.5	3	3.8		
Acquired pathology:	14	35.0	12	30.0	26	32.5	0.05	0.82 NS
Intrauterine synechia	5	12.5	5	12.5	10	12.5	0.11	0.73 NS
Submucou smyoma	5	12.5	3	7.5	8	10.0	0.56	0.46 NS
Intrauterine polyp	4	10.0	4	10.0	8	10.0	0.14	0.71 NS
Total with abnormality	20	50.0	18	45.0	38	47.5		

Table 2: Distribution of hysteroscopic findings according to time of incidence of abortions among the studied group of patients(n=80)

Time of incidence	Hysteroscopic findings						To	tal	χ^2 test	P value
of abortion	No abnormality detected		Congenital anomaly		Acquired pathology				anoma	
	NO.	%	NO.	%	NO.	%	NO.	%		
First trimester	31	50.8	9	14.8	21	34.4	61	76.3		
Second trimester	11	57.9	3	15.8	5	26.3	19	23.7	0.44	0.80 NS
Total	42	52.5	12	15.0	26	32.5	80	100		

P value: NS= non-significant (P-value > 0.05).

Discussion:-

Hysteroscopy offers great assistance for the interpretation of uncertain findings from other diagnostic methods. Furthermore it enables direct visualization of cervical canal, uterine cavity and increase the precision and accuracy in the diagnosis of intrauterine abnormalities (8).

In the present study the mean maternal age was 29.70 ± 5.51 years, most of the patient (33%) between (25-30) years. Normal hysteroscopic findings were the most common findings in (52.5%) of the patients, these results are consistent with Weiss et al., (2005)(9) who reported that 70% of the patients had normal hysteroscopic findings and Cogendez E et al., (2011)(10) who reported normal uterine cavity in 61.1% of the patients.

In this study it was found that abnormal hysteroscopic findings were found in 47.5% of patients, congenital uterine anomalies were present in 15% and acquired uterine anomalies in 32.5%, these results were similar to Dendrinos S et al., (2008)(11)who found that 31% of the patients had acquired uterine anomalies. In contrastWeiss A et al., (2005) (9) found that congenital uterine anomalies were present in 19%, acquired uterine anomalies was present in 11%.

In our study sample, By evaluating the congenital changes in the uterine cavity, the following diagnoses were found, septate uterus (n = 6)(7.4%), subseptate uterus(n=3)(3.8%), and bicornuate uterus(n=3)(3.8%). By considering the acquired anomalies, the most frequent diagnoses were: intrauterine adhesion (n = 1)(012.5%)), polyp (n = 8)(10%),

leiomyoma (n =8)(10%). This is in agreement with Souza C et al. (2011) (12) who reported that twenty-two (33.3%) patients in their study were found to have uterine cavity changes, with 9 of them being congenital and 13 acquired anomalies. By evaluating the congenital changes in the uterine cavity, the following diagnoses were found: arcuate uterus (n = 4), bicornuate uterus (n = 3) and septate uterus (n = 2). By considering the acquired anomalies, the most frequent diagnoses were: intrauterine adhesion (n = 7), polyp (n = 4), leiomyoma (n = 2).

We found that septate and subseptate uterus were the most common anomaly representing (75%) among the patients with congenital malformations confirmed by laparoscopy. This is in agreement with Proctor J and Haney A(2003)(13), who used diagnostic laparoscopy to evaluate 35 patients with recurrent pregnancy loss and a split uterine cavity diagnosed by preoperative hysteroscopy or hysterosalpingography, and found that all the patients had uterine septum.(13) &Cogendez E et al.,(2011)(10) who found that the uterine septum and subseptate uterus were the most common anomaly among patients with a congenital malformation (77.4%).

Intrauterine adhesions due to excessive curettage may result in recurrent pregnancy loss because of diminished intrauterine volume, endometrial inflammation and fibrosis. Friedler S et al., 1993(14) using diagnostic hysteroscopy evaluated 147 patients who had D&C after a first trimester spontaneous abortion and found intrauterine adhesions(IUA) in 28(19%) patients. Romer T et al (1996) (15) declared that IUAs were statistically more common in patients with two or more abortions (27.8%) than in patients with one abortion (14.9%). Cogendez E et al (10) found 9.3% of cases had IUA. We found that IUAs is the commonest acquired intrauterine pathology among patients of the study.

We found that the prevalence of congenital uterine anomalies was15%, 15% and acquired anomalies was 35%, 30% in the patients who had experienced two or less miscarriages and patients who had experienced three or more miscarriages respectively, hence there was no difference between the two groups. This is in agreement with Michael K et al., (2010) (**16**) who retrospectively analysed a total of 206 patients, 87 of whom had suffered from two early miscarriages (group A) whereas group B consisted of 119 women with three or more early consecutive miscarriages Uterine anomalies were found in 36.8% (group A) and 42.9% (group B) of patients with no significant difference was found between the two groups & Cogendez E et al., (2011)(**10**) who compared hysteroscopic findings with the number of miscarriages and found the frequency of congenital anomalies was 18.2%, 21.9%, 25.3% and acquired pathologies was 17.7%, 26.1%, 16.3% for the patients who had one, two and three or more miscarriages respectively. There was no statistically significant difference between congenital and acquired pathology frequency in three groups.

Carolyn R et al., (2013)(**17**)found that 19.3% of patients had uterine anomalies, of which 12.9% had acquired defects, the most common is uterine myoma and 7.0% had congenital anomalies, the septate uterus is the most common. 0.6% had both congenital and acquired defects. They declared that the prevalence of congenital and acquired anomalies didn't differ between patients who had experienced two consecutive miscarriages and those who had experienced three or more losses. Therefore performing hysteroscopy after one miscarriage will give the same uterine anomaly detection results as hysteroscopy after three miscarriages.

Conclusion:-

Hysteroscopy offers an accurate method to investigate the uterine cavity with high sensitivity and specificity values and it is an excellent guide for localization of pathological lesions in case of recurrent abortion, Because structural uterine abnormalities (SUAs) are the most treatable cause of recurrent abortion, these patients should be identified early ,As the study revealed that no difference was detected between the patients experienced one, two, or more abortions as regard hysteroscopic findings , So hysteroscopy may be done after first abortion to detect the anatomical abnormality as early as possible.

References:-

- 1. **Doubilet P, Benson C, Bourne T (2013):** Diagnostic criteria for non viable pregnancy early in the first trimester. N Eng J Med; 369:1443.
- 2. Ragan L and Rai R (2000): Epidemiology and medical causes of miscarriage. Baillieres Best Pract Res Clin Obstet Gynecol; 14:839.
- 3. Wang X, Chen C, Wang L (2003): Conception, early pregnancy loss, and time to clinical pregnancy: A population- based prospective study. Fertil Steril; 79:577.

- 4. Agrakwal K and Alfireuic Z (2012): pregnancy loss after chorionic villus sampling and genetic amniocentesis in twin pregnancies: (a systemic review). Ultrasound in obstetric and gynecology: The Official Journal of the international society of ultrasound in obstetric and gynecology; 40(2):128-134.
- 5. Simpson J and Jauriaux (2012): Pregnancy loss. In Gabbe S, Niebyl J, Simpson J, eds. Obstetrics: Normal and problem pregnancies.6thed. Philadelphia, PA: Elsevier Saunders: Chap26.
- 6. Stephenson M (2006): Management of recurrent early pregnancy loss. J Reprod Med; 51(4):303-310.
- 7. **Demirol A and Gurgan T (2004):** Effect of treatment of intrauterine pathologies with office hysteroscopy in patients with recurrent IVF failure. Rprod Biomed Online;8(5):590-594.
- 8. Ceci O, Bettocchi S, Di Venere R (2004): Advanced operative office hysteroscopy without anesthesia: analysis of 501 cases treated with a 5 Fr. bipolar electrode. Hum Reprod; 17: 2335-48.
- 9. Weiss A, Shalev E, Romano S, (2005): Hysteroscopy may bejustified after two miscarriages. Hum. Reprod. 20, 2628-31.
- 10. Cogendez E, Dolgun ZN, Sanverdi I, et al (2011): Post-abortion hysteroscopy: a method for early diagnosis of congenital and acquired intrauterine causes of abortions. Eur J Obstet Gynecol Reprod Biol;156:101–4.
- 11. **Dendrinos S, Grigoriou O, Sakkas E, Makrakis E , Creatsas G(2008)**:Hysteroscopy in the evaluation of habitual abortions. The European Journal of Contraception and Reproductive Health Care June ;13(2):198–200.
- 12. Souza C, Schmitz C, Genro V, Martins A, Scheffel C, Oppermann M, CunhaFilho J, (2011): Office hysteroscopy study in consecutive miscarriage patients. Rev Assoc Med Bras 57(4): 397-401.
- 13. **Proctor J& Haney A (2003):** Recurrent first trimester pregnancy loss is associated with uterine septum but not with bicornuate uterus. Fertil Steril; 80(5):1212-1215.
- 14. Friedler S, Margalioth E, Kafka I, Yaffe H (1993): Incidence of post-abortion intrauterine adhesions evaluated by hysteroscopy—a prospective study. Hum Reprod; 8(3):442–4.
- 15. Romer T, Bojahr B, Muller J, Lober R (1996): Early diagnosis of congenital and acquired intrauterine causes of abortion by post-abortion hysteroscopy; 56(10):542–5.
- 16. Michael K, Michael W, Doerte W, Petra B, Klaus D, Amadeus H, Thomas S (2010): Hysteroscopic findings in women with two and with more than two first-trimester miscarriages are not significantly different .Reproductive Bio Medicine Online 21, 230– 6.
- 17. Carolyn R, William H, Kutteh, M (2013): Effect of prior birth and miscarriage frequency on the prevalence of acquired and congenital uterine anomalies in women with recurrent miscarriage: a cross-sectional study. Fertil Steril; 99:1916–22.