ORIGINAL ARTICLE

Clinical pattern of gynecological/early pregnancy complaints and the outcome of pelvic sonography in a private diagnostic center in Ilorin

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Abstract

Background: Gynecological and early pregnancy complaints (GEPC)/lower abdominal complaints (LAC) are common in female patients seeking medical advice or treatments. Clinical limitations of GEPC or LAC are better resolved through appropriate laboratory and imaging investigation, among which the ultrasound examination (USS) is one.
Aim: To determine the distribution/clinical pattern of female patients with GEPC/LAC, and to evaluate the correlation between the clinical and sonographical diagnoses, as seen in a private diagnostic center in the Ilorin metropolis.
Materials and Methods: Records of 253 consecutive cases with GEPC/LAC, who had USS, were retrieved using 3.5 and 5 MHZ probes with SIEMENS Sonoline SL-1 machine, from January 2004 to December 2006, and retrospectively analyzed for the following variables: Age, occupation, complaints of vaginal bleeding, with or without pain, history of amenorrhea or infertility, clinical and ultrasound impression of early pregnancy complaints, including ectopic pregnancies and pelvic inflammatory diseases (PID), with exclusion of urogenital and gastrointestinal complaints/cases. Pregnancies greater than 12 weeks were excluded, bringing the total number of cases examined to 242.
Results: Mean age was 30.44 years, median = 29.00; Mode = 25.00; with an STD of 7.69973. The youngest patient was 15-years-old while the oldest was 70 years. Cases of bleeding per vaginam Bleeding per vaginam (BPV), with or without pain, were the highest, 149 cases (61.6%), followed by threatened abortion, 45 cases (18.6%), and non-viable or incomplete abortions, 13 cases (5.4%). In contrast dysfunctional uterine bleedings (DUB) ranked the highest among the USS results, with 62 cases (25.6%), incomplete abortion cases were 44 (18.2%), while the non-viable pregnancies (missed abortions, blighted ovum, and early intrauterine fetal deaths (IUFD) cases) contributed to 26 cases (10.7%). Viable pregnancies were nine; incomplete abortions, nine; DUB, seven; Non-viable pregnancies, six; Threatened abortions, four; PID, four; complete abortions, two; Query-infected or degenerating fibroids, two; and others two. Threatened abortion ranked the highest among the definite clinical diagnoses.
Conclusions: Bleeding per vaginam ranked the highest among GEPC/LACS in this environment, while there was poor correlation between clinical impressions and USS findings.

Key words: Ultrasonography, early pregnancy, gynecological/lower abdominal complaints, pattern of findings

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Introduction

Any variations in the menstrual cycles or normal vaginal discharge of a woman of child-bearing age are of serious concern to that individual. Also any pelvic pain, discomfort or presence of any lower abdominal swelling creates anxiety of varied degrees in any female, because of the possibility

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of an abnormal growth or cancer development, the sexual function, or even the procreative ability may be affected as well as the socioeconomic value or potential of the patient.[1, 2, 3-11] These aside, some of these complaints or signs and symptoms may be life-threatening and will require prompt and immediate medical attention from the ever busy medical personnel or the attending physicians. It has been estimated that about 30% of the women complain of lower abdominal pain or bleeding during early pregnancy and approximately 15% of the clinically confirmed pregnancies will result in miscarriage.[10]

However, there are immediate clinical limitations in sorting out or resolving some of these cases at a busy consultation clinic, a majority of which are better diagnosed through appropriate laboratory and imaging investigations; among which is the ultrasound examination (USS).[1] USS is also useful in patients with pain, with or without masses. Many patients present with bleeding/and lower abdominal pain in early pregnancy.[10]

We believe that categorizing the clinical pattern and ultrasound findings of the complaints will improve diagnosis, management of cases and more research efforts can be directed towards the problematic cases among the findings.

Aim

To determine the distribution/clinical pattern of female patients with GEPC or LAC, and to evaluate the correlation between the clinical and sonographical diagnoses, as seen in a private diagnostic center in Ilorin metropolis.

Materials and Methods

Records of 253 consecutive cases with GEPC or LACS, who underwent ultrasound examination, using 3.5 and 5 MHZ probes with SIEMENS Sonoline SL-1 machine, from January 2004 to December 2006, at a private medical center located in the central part of the Ilorin metropolis, were retrieved and retrospectively analyzed for the following variables: Age, occupation, gynecological complaints of vaginal bleeding with or without pain, history of amenorrhea or infertility; and clinical impressions such as threatened abortion, incomplete abortion or non-viable pregnancies, including suspected ectopic pregnancies and pelvic inflammatory disease (PID), with the exclusion of urogenital and gastrointestinal complaints. Those with pregnancies greater than 12 weeks were excluded, bringing the total number of cases examined to 242. The various pelvic ultrasound findings/variables, such as, viability or non-viability of the pregnancies; presence of pelvic masses or inflammatory collections, and abnormal endometrial image changes were documented.

Results

Mean age was 30.44 years
Median age = 29.00
Mode = 25.00; Standard Deviation = 7.69973
Minimum age = 15 years
Maximum age = 70 years

The most frequent age group was 20-29 years, while the most frequent occupational group was the trading/business group, followed by students, while the artisan, the civil-servants, and the teaching profession were even in frequency, occupying the third position [Tables 1-3].

Among the clinical complaints or indications, cases of bleeding per vaginam BPV with or without pain, were the highest, 149 cases (61.6%), followed by threatened abortion, 45 cases (18.6%), and incomplete abortion, 13 cases (5.4%). Table 2.

In contrast dysfunctional uterine bleedings (DUB) ranked highest among the ultrasound scan findings/impressions with 62 cases (25.6%); incomplete abortion cases were 44 (18.2%), while non-viable pregnancies (missed abortion, blighted ovum, and early intrauterine fetal deaths (IUFD) cases), contributed 26 cases (10.7%) [Tables 3-5].

Table 1: Age group frequency in years

Age group (years)	Frequency	Percentage
10-19	6	2.5
20-29	98	40.5
30-39	79	32.6
40-49	19	7.9
50-59	3	1.2
60-69	1	0.4
70 and above	1	0.4
Age is not documented	35	14.5
Total	242	100

Table 2: Incidence of clinical complaints/diagnoses

Clinical complaints/diagnosis	Frequency	Percentage
Infertility-primary	1	0.4
Bleeding PV with IUCD *in situ*	2	0.8
Amenorrhea? cause	3	1.2
Query DUB	4	1.7
Others	5	2.1
Ectopic or Query ectopic pregnancy	5	2.1
infertility—secondary	6	2.5
Lower abdominal pain/PID	9	3.7
Incomplete or Query incomplete abortion	13	5.4
Threatened abortion	45	18.6
Bleeding PV, Query cause, with or without pain	149	61.6
Total	242	100.0

Table 3: Age-group and clinical findings/complaints

Age-groups (yrs)	AME	BPV + IUD	BPV ± P	? DUB	? ECT/ ECT	IN - AB	INF - 1	INF - 2	LAP/P	TA	OT	Total
10-19	-	5	-	-	-	-	-	1	-	-	-	6
20-29	-	1	63	-	1	6	-	2	4	21	-	98
30-39	2	1	48	2	2	5	1	1	3	13	1	79
40-49	-	-	15	-	1	-	-	-	-	3	-	19
50-59	-	-	1	-	-	-	-	-	-	-	2	3
60-69	-	1	-	-	-	-	-	-	-	-	-	1
70 and above	-	-	1	-	-	-	-	-	-	-	-	1
Unidentified	1	-	16	2	1	2	-	2	2	8	1	35
Total	3	5	149	4	5	13	1	6	9	45	5	242

AME = Amenorrhea; BPV + IUD = Bleeding Per-vaginam (PV) with Intra-contraceptive *in situ*; BPV ± *P* = Bleeding PV with or without pain; ? DUB = Query dysfunctional bleeding; ECT and ? ECT= Ectopic or Query Ectopic pregnancy; INA = incomplete abortion; INF-1 and 2 = primary and secondary infertility; LAP/*P* = lower abdominal pain or pelvic inflammatory disease

Table 4: Incidence of occupations and clinical findings/diagnoses

Occupations	AME	BPV + IUD	BPV ± P	? DUB	? ECT/ ECT	IN - AB	INF - 1	INF - 2	LAP/P	TA	OT	Total
Artisan	1	-	8	1	2	1	-	1	-	3	-	17
Ban/Acc	-	-	2	-	1	-	-	-	-	1	-	4
Civil/s	-	-	8	1	1	1	-	1	-	5	-	17
H/wife	-	-	11	-	-	1	-	-	-	1	-	13
Nursing	-	-	3	-	-	-	-	-	-	2	-	5
Students	-	-	19	1	-	2	-	1	1	7	-	31
Teaching	-	-	9	1	-	1	-	-	1	6	-	17
Trade/Bus	2	2	59	-	1	3	-	1	5	13	4	91
Others	-	-	5	-	-	-	1	-	-	-	-	6
Unidentified	-	-	25	-	-	4	-	2	2	7	-	41
Total	3	2	149	4	5	13	1	6	9	45	5	242

Bank/Acc = Banking/Accountancy; Civil/s = Civil servants; H/wife = House-wife; Trade/Bus = Trading/Business.AME = Amenorrhea; BPV + IUD = Bleeding Per-vaginam (PV) with Intra-contraceptive *in situ*; BPV ± *P* = Bleeding PV with or without pain,? DUB = Query dysfunctional bleeding; ECT and ? ECT = Ectopic or Query Ectopic pregnancy; INA = incomplete abortion; INF-1 and 2 = primary and secondary infertility; LAP/*P* = lower abdominal pain or pelvic inflammatory disease; TA = Threatened abortion; OT = others

Table 5: Age-groups incidence and uss diagnoses: Ultrasound impressions/diagnoses

Age-groups	AD	CF	CA	DU	ET	FI	IA	IU	NC	NS	NV	OD	PD	PI	PT	QC	QD	QD	QM	TH	UC	VC	OT	Total
10-19	-	-	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	6
20-29	-	1	5	28	2	-	19	-	2	-	8		7	-	1	-	1	-	-	6	1	13	3	97
30-39	1	2	2	20	1	3	12	1	1	1	7	1	8	1	1	-	-	1	-	5	-	8	2	78
40-49	-	-	-	6	-	3	3	-	-	1	5	-	1	-	-	-	-	-	1	1	-	-	-	21
50-59	-	-		-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
60-69	-	-		-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	2
≥70	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Unidf	1	-	-	5	1	2	9	-	2	-	6	-	1	-	-	-	-	-	-	3	-	4	1	35
Total	2	3	7	62	4	8	44	1	5	3	26	1	19	2	2	1	1	1	1	16	1	25	7	242

1. AD = Adhesions; 2. CF = Cyesis co-existing with uterine fibroid; 3. CA = Complete abortion; 4. DU = DUB (dysfunctional uterine bleeding); 5. ET = Ectopic pregnancy (ruptured, leaking, abdominal or intact); 6. FI = Fibroid (degenerating or Query infected); 7. IA = Incomplete abortion; 8. IU = incomplete abortion plus uterine fibroid; 8. NC = Nil Cyesis or pseudocyesis; 10. NS = Normal Scan; 11. NV = Non-viable cyesis (missed abortion, Blighted ovum, and IUFD); 12. OV = ovarian cyst + ? DUB (5 + 13); 13, PD = P.I.D; 14, PI = PID with IUCD *in-situ*; 15. PT = P.I.D with Tubo-ovarian mass (14 + 13); 16. QC = Query ca. cervix; 17. QD = Query DUB or PID; 18. Qd = Query DUB + Tubo-ovarian mass complex (13 + 5); 19. QM = Query menopause or perimenopausal bleeding; 20. TH = Threatened abortion, including inevitable abortions; 21. UC = Uterine fibroid + non-viable cyesis; 22. VC = Viable cyesis; 23. OT = others

On further analysis of the 149 clinical complaints of BPV, with or without pain, USS revealed that 49 (32.89%) cases were due to DUB, 26 (17.45%) of them were due to incomplete abortion, 17 (11.41%) were non-viable pregnancies, while viable pregnancies contributed 17 (11.41%), and nine (6.04%) cases were due to threatened abortion. Others were: Eight cases of PID; nine, degenerating fibroids (six cases without and three with pregnancies); four cases of complete abortion; one ectopic pregnancy; two normal scans; and seven unidentified (others) cases.

In addition, among the 45 cases clinically diagnosed as threatened abortion, USS revealed the following:

Viable pregnancies, nine; incomplete abortions, nine; DUB, seven; Non-viable pregnancies, six; threatened abortions, four; PID, four; complete abortions, two; Query-infected or degenerating fibroids, two; and others (unidentified), two.

On the other hand, among the 13 cases categorized clinically as incomplete abortions or non-viable pregnancies: Six of them were actually incomplete abortions, while the remaining ones were shown to be: One non-viable pregnancy, one viable pregnancy, one ectopic pregnancy, one case of PID with a Tubo-ovarian mass, and two cases with no evidence of recent pregnancy, respectively [Tables 3-5].

Discussion

The results or findings from the radiological or imaging studies are expected to strengthen or confirm a clinician's impression and eliminate errors in the diagnosis due to certain clinical limitations. Several patients have had their therapy altered based on the imaging examination results and other laboratory test results [2, 3-14]. The ultrasound is an easy and quick investigation in the diagnosis of GEPC/LAC. It is a hazard-free and cost-effective investigation [1, 8-14]. The findings in this study are proof of these assertions, because, out of 45 clinical cases/impressions of threatened abortions and 13 cases of non-viable or incomplete abortions, USS has shown that only four cases were actually threatened abortions, which may require just bed rest and a few other treatment measures. The remaining ones: Nine were normal pregnancies and 16 non-viable pregnancies, requiring other mode of treatments such as uterine evacuation. The cost-benefit was enhanced and in some instances there was elimination of unnecessary surgical intervention, especially whenever there were no positive findings on USS to support such interventions[1-9].

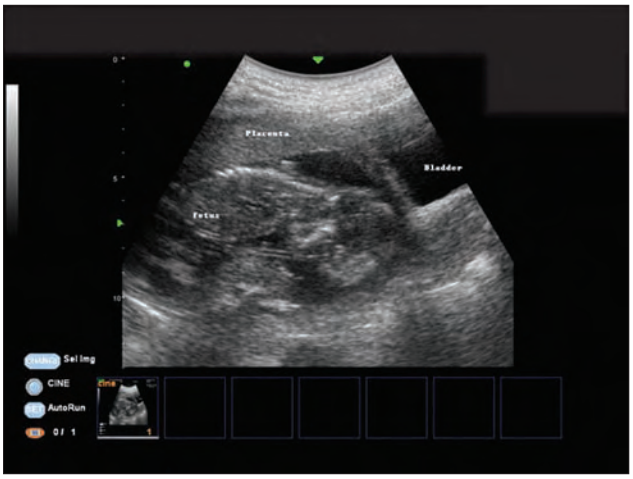

Figure 1: Misdiagnosed as a case of Rt. Ectopic pregnancy: Image of the normal growing fetus in cephalic presentation with a longitudinal lie, now at about three months, and was carried to term

However, there is a need for caution, because USS is operator-dependent, and there are instances when error in interpretation of image-findings by untrained hands has led to unnecessary operations.[3] The case of a young woman who had salpingectomy done because of a wrong report of an ectopic gestation by an untrained sonographer is a good illustration. The normally implanted growing gestation (now at about three months) is shown in the sonogram in Figure 1.

Uterine/vaginal bleeding disorders are common indications for a visit to a gynecologist, and approximately 15 to 20% of office gynecological visits are for the evaluation of abnormal vaginal or uterine bleeding (AVB or AUB), and 25 to 50% of gynecological surgeries are performed to address menstrual dysfunction.[2-12] This is in agreement with the findings in this study, where the majority of the complaints have been due to bleeding per vaginam BPV and the highest USS conclusions in this study have been from DUB.

Abnormal uterine bleeding is defined as excessive, erratic, or irregular bleeding in the presence or absence of intracavitary or uterine pathology.[1, 2] It may be associated with structural or systemic abnormalities. In contrast, dysfunctional uterine bleeding (DUB) is associated with an anovulatory menstrual cycle. It is not caused by pelvic pathology, medications, systemic disease or pregnancy.[2-5] DUB is classified as abnormal uterine bleeding caused by a hormonal mechanism[1, 2, 4, 6]. It is most common near the beginning and end of a woman's reproductive life, as confirmed in this study, where the most frequent age groups with DUB have been found in the age group of 20-39 years [Table 5]. However, DUB may occur at any time. The list of potential causes of vaginal or abnormal uterine bleeding includes anatomic structural lesions, endocrine, hematological, systemic disease, infections, and medications.[1-6]

Dysfunctional uterine bleeding is best diagnosed step by step, and it requires exclusion of the underlying specific systemic diseases through a thorough history taken by the referring physician. He/she should document the patient's age, last menstrual period (LMP), amount and duration of bleeding, any post-coital bleeding, record of any medications (especially hormonal agents, NSAIDS, or warfarin), any history of endocrine abnormalities or use of contraceptives, symptoms of pregnancy or coagulopathies, and history of trauma, in the case file.[2-6]

Ultrasound is the initial imaging test to request for, as it will determine the uterine endometrial plate (EP) image status. Any EP thickness of more than 15 mm warrants further histological evaluation. In the evaluation of DUB, emphasis should be placed on establishing the cause of bleeding and ruling out endometrial cancer.[1-11]

Threatened abortion ranked the highest among the definite

clinical diagnoses. The need to salvage a threatened pregnancy is of high clinical importance. Furthermore USS is very accurate in diagnosing many complications of pregnancies, as amply demonstrated in the results mentioned earlier. The real proof of the value of a test will be seen when the patients live longer after undertaking such a test, presumably because they would then receive treatment better matched to their complaints/diseases. The question that needs to be answered is, whether the outcome (result) changed the treatment recommended for the patient?

When a problem arises in a patient's body, it is very uncomfortable to not know where it originated from.[4-7] The pattern of findings in this study, for instance, ranked vaginal bleeding as the highest among the patients with GEPC/LACS, who sought medical advice, and in a majority of the cases the etiology was simple and treatable. The pattern of uterine or vaginal bleedings, if categorized or classified, made clinical and sonographical assessment easier, as depicted in this study, through age groupings and by knowing their frequency of occurrence. For instance post menopausal bleeding could indicate the possibility of endometrial cancer, whereas, dysfunctional uterine bleeding in perimenopausal women was typically associated with a failing corpus luteum function. Using a transvaginal scan (TVS), the endometrial image could be evaluated in a meticulous and systematic fashion, so that subtle textural abnormalities could be detected and the likely cause of bleeding established with histological confirmation, as was done for breast lesions. Furthermore, the bilayer thickness of the endometrium as well as the echogenicity were parameters that also had to be patiently evaluated.[1,2-8] What are the other methods/options of evaluating pelvic complaints, especially cases of AUB, we may ask? These include urine pregnancy test (UPT), full blood count (FBC), blood hormonal assay, liver function tests (LFTs), Endometrial biopsy, dilatation and curettage, saline infusion Sonography (Sono-HSG), as well as hysteroscopy.

Conclusions

Clinically, cases of bleeding per vaginam ranked the highest among GEPC/LACS in this environment, and USS made clinical management easier and rational.

References

1. Arthur C. Fleischer, M.D: Just the Facts- Uterine Disorders; Endometrial Disorders. In: Sonography in Gynecology and Obstetrics. International, edition MCGRAIN Hill Companies. INC: Madison, WI New-York. 2004; Pages 35-56 and 57-97.
2. Linda D. Bradley, MD: Abnormal uterine bleeding: A Quick Guide To Evaluation and Treatment. The journal of family practice: April 2002 Vol. 14. No. 4.
3. Roger C. Sanders, Thomas C. Winter, 111: Infertility; Rule out adnexal mass; First trimester bleeding. In: Clinical Sonography, A practical guide. 4th Edition; Lippincott Williams and Wilkins: 2007. Pages: 278- 293; 295-323; 389-405.
4. Dysfunctional Uterine Bleeding, Pages 1-15. http://www.sh.1suhsc.edu/fammed/outpatientmanual/dub.htm
5. Christopher Moore MD, Susan B. Promes MD: Ultrasound in pregnancy. Ultrasound in Emergency Medicine, Emergency Medicine Clinics of North America: Volume 22, issue 3, August 2004, Pages 697-722.
6. Amann M, Anguino H, Bauman RA, et al . Chronic abnormal uterine bleeding in Nongravid women. Pasadena (CA): Southern California: Kaiser Permanente; 2006. http://www.guideline.gov/summary.aspx?doc_id=10889 [Last accessed on 2011 Feb 15].
7. Philip Owen: Lower abdominal pain in Women. Netdoctor: File://C:\Documents and Setting\user\Desktop\000000\abdominalpains.htm
8. Chisholm R, Jeremy P.R. Jenkins, Crofton M, et al . Obstetrics Ultrasound and gynecological imaging. In: Text book of radiology and Imaging. 7th ed. UK: Elsevier Ltd.; 2003.p. 1039-69.
9. Pradip R. Patel: Obstetrics and Gynecology. In: Lecture notes, Radiology. 2nd: Edition. Blackwell Publishing Ltd. UK. 2005. Pages, 247-259.
10. Karen J., Tom B. One-stop gynaecology: The role of ultrasound in the acute gynecological patient. In: Gynaecology edited by R. W. Shaw, W. P. Stuter and S. L. Stanton. 3rd edition: Churchill Livingstone; London. 2003, 103-116.
11. Coulter A, Bradlow J, Agass M, Martin-Bates C, Tulloch A. Outcomes of referrals to gynaecology outpatient clinics for menstrual problems: an audit of general practice records. Br J Obstet Gynaecol 1991;98:789-96.
12. Bettocchi S, Ceci O, Vicino M, Marello F, Impedovo L, Selvaggi L. Diagnostic inadequacy of dilatation and curettage. Fertil Steril 2001;75:803-5.
13. A. E. Oguntoyinbo, A. O. D. Amole, F.O. Komolafe: Sonography assessment of Fallopian tube patency in the investigation of female in infertility. African journal of reproductive health: Vol. 5,:nos. 1-April 2001; pages 100-105.
14. Pasqualotto EB, Margossian H, Price LL, Bradley LD. Accuracy of preoperative diagnostic tools and outcome of hysteroscopic management of menstrual dysfunction. J Am Assoc Gynecol Laparosc 2000;7:201-9.
15. A. E. Oguntoyinbo: Relationship between tubal factor and duration of infertility, in Ilorin; out-come of Hsg assessment. Journal of Advancement in Medical and Pharmaceutical sciences: Vol. 1. No 1, 2007. Pages, 51-54. Publication of Duncan science: Cross-River state, Nigeria.

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