

Symptomatic uterine fibroids in a 23-year-old single nullipara: A case report and literature review

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Abstract

Uterine fibroid is a tumour of the smooth muscle of the uterus. The symptomatic uterine fibroids are commonly seen at age from 28 years and above but rare amongst the younger age groups. We report a case of a 23 year old single nulliparous woman who presented with symptomatic uterine fibroids and had successful open abdominal myomectomy.

Key words: Symptomatic; Uterine fibroids; Tumour; Young; Myomectomy

1. Introduction

Uterine leiomyoma is the most common benign neoplasm of the female genital tract, arising from the smooth muscle of the uterus [1]. Approximately, 80% of women of reproductive age are affected by uterine fibroids, but about 20% to 40% of these women become symptomatic[2].The exact aetio-pathogenesis of uterine fibroids is not known, however, oestrogen and progesterone have been widely postulated to proliferate tumour growth as fibroid rarely occur before menarche and reduces after menopause [3,4] where their serum levels are considerably low. The most consistently identified risk factors include ethnicity, genetic predisposition, age, hypertension, early menarche, late menopause, polycystic ovarian syndrome (PCOS), and nulliparity [5,6,7]. The chief presenting symptoms with fibroid are menstrual irregularity (menorrhagia followed by metrorrhagia or polymenorrhagia), abdominal mass, abdominal pain, urinary frequency, urgency, and infertility. Symptoms depend on number, size and location of fibroids [8].

A spectrum of presentation of symptomatic uterine fibroids in some studies showed that 19.0% of the patients were between 20 to 30 years of age, 23.0% to 68.6% between 31 and 50 years [9,10] and rare or even absent below 24 years of age [11]. This depicts increasing prevalence of symptomatic uterine fibroids with increasing age and a low prevalence in the younger age groups. Radiologic evaluation of over 1200 adolescents presenting to the Department of Radiology, Rivers State University Teaching Hospital, River State, Nigeria for a period of 12 months with age distribution of 12 years (8.65%; n = 106), 13 years (15.27%; n = 187), and 16 years (23.35%; n = 286) [12] showed that uterine fibroids were seen at ages 13, 14, 15, 16 and 17 years, accounting for a prevalence of 0.58% (n=22) of the participants [12]. This prevalence of 0.58% shows that uterine fibroids is quite rare in this age group compared to a rate of over 68% seen amongst women with age between 31 to 50 years [9,10]. The chief presenting symptoms from this radiologic evaluation were; lower abdominal pain (38.29%), generalized abdominal discomfort (18.69%), dysmenorrhea (16.49%), nausea and vomiting (10.53%), irregular vaginal bleeding (7.10%), dysuria (3.92%), diarrhea (3.02%) and amenorrhea (1.96%) [12] while the provisional diagnoses before they were subjected to radiologic investigation were; pelvic inflammatory disease 38.29%, no diagnosis (18.69%), dysmenorrhea 16.49%, early pregnancy 10.53%, abortion/miscarriages 7.10%, urinary tract infection 3.92%, menorrhagia 1.96% [12]. Surprisingly, there was no single suspicion of uterine fibroids as

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part of provisional diagnosis in over 1200 of these participants showing that this disease entity is really rare amongst the adolescents and healthcare professionals rarely consider uterine fibroids in their differential diagnosis in the evaluation of genitourinary symptoms amongst this peculiar reproductive age group. Although, some researchers have reported some rare cases of symptomatic uterine fibroids in the younger age groups including adolescents [13-21], more reports as well as case series and more studies are required to bring to the consciousness of the gynaecologists and other healthcare providers to consider this rare gynaecological disease occurrence in the course of the evaluation of the younger reproductive age women presenting with genitourinary complaints.

In this case report, we describe a 23-year-old single nullipara who presented with a 3-year history of lower abdominal swelling and heavy menstrual flow of 6 months duration due to symptomatic uterine fibroids and had open abdominal myomectomy with good outcome.

2. Case

Miss J C, was a 23-year-old single nullipara, who presented to the Gynaecology clinic of Enugu State University Teaching Hospital, Parklane, Enugu with lower abdominal swelling noticed 3 years prior to her presentation which gradually increased up to the level of the umbilicus. There was associated occasional lower abdominal pain but no other gastrointestinal or lower urinary tract symptoms. There was no history of weight loss, early satiety or loss of appetite. About 6 months prior to her presentation, she noticed increased menstrual flow with passage of clots. Her menstrual flow duration has increased from 4 to 7 day flow and she used 4 well soaked vulva pads per day which was more than 2 moderately soaked pads per day that she used previously to contain her menstrual bleeding before the current symptoms. There was occasional history of body weakness, dizziness but no fainting attacks. Her mother's sister had myomectomy 5 years ago due to similar symptoms. Her menarche was at 14 years and she had a regular 28 day cycle and she was sexually active. She had uneventful left ovarian cystectomy 5 years earlier. She was not a known hypertensive or diabetic.

At presentation in the clinic, she was in no obvious painful distress. She was pale but anicteric. She was afebrile with a temperature of 36.5°C. There was no peripheral lymphadenopathy and there was no pedal oedema. Her pulse rate was 78 beats per minute and the blood pressure was 110/70 mmHg and there was no murmur. Her respiratory rate was 18 cycles per minute and her chest was clinically clear. Her breasts were well developed, symmetrical and harbored no mass. The abdomen was full and moved with respiration. There was a supra-pubic swelling but no area of tenderness. There was a palpable pelvic mass about 22 week size, firm, nodular, moderately mobile. The vaginal examination showed normal development of external female genitals. The cervix was healthy looking. There was no active bleeding per vaginam. The uterus was bulky and about 22 week size, nodular and not very freely mobile. There was no adnexal mass. Cervical motion tenderness was negative. Her full blood count showed haemoglobin estimation of 7.23 g/dl (packed cell volume 22%), platelets count of 442×10^9 cells per litre and white blood cell count of 5.05×10^9 cells per litre (figure 1). Her kidney and liver function tests were normal (figure 2). The retroviral screening and hepatitis B and C virus screening were negative (figure 3). An abdominopelvic ultrasound scan showed a bulky, anteverted and non-gravid uterus that measured 19.55 cm x 9.49 cm with endometrial stripe of 0.31 cm. The fundal aspect of the myometrium harbored a sub-mucosal solitary hypoechoic round mass which measured 8.36 cm x 9.15 cm and casts posterior acoustic shadow (figure 4). The hysterosalpingogram showed bilateral patent tubes (figure 5). The diagnosis of symptomatic uterine fibroids with anaemia was made. She was counseled on the diagnosis and options of treatment and she gave consent for open abdominal myomectomy. She had haemoglobin optimization with haematinics and further heavy menstrual bleeding was controlled with a single dose of intramuscular medroxyprogesterone acetate 150mg and oral tranexamic acid 500mg 3 times daily for 7 days. Her preoperative haematocrit was 35% (figure 6). She subsequently had myomectomy and 4 pieces fibroids masses with the largest measuring 9 cm x 10 cm were enucleated. She had right ovarian and ipsilateral peri-tubal cystectomy for intraoperative incidental finding of right ovarian and peritubal cysts with good outcome (figure 7a-c). She was discharged home in good clinical condition on the 5th day post-surgery. The histology reports confirmed uterine fibroid and simple ovarian and peritubal cysts (figure 8).

Patient Information		Age		Sex	Ethnic Group	Date of arrival in
Nature of Specimen: Blood		LABORATORY REPORT				
Provisional diagnosis:		RBC	4.14	X-12/1		
Clinical Details:		Hb	7.23	g/dl	G/100ml	%
		P.C.V	23.9	l/l	WBC	5.05 $\times 10^9$ /mm ³
		MCHC	30.4	g/dl	DIFFERENTIAL COUNT	
Exam Required:		M.C.V	57.4	f		
Provision Haematology request		Retics	17.5	%		
		Platelets	442	$\times 10^9$ /l		
		ESR		mm/1st hr		
		Report of film	RBC Hypochromic			
			Anisocytosis			
			Polychromasia			
			No sickling			
			Genotype			
YES/NO						

Figure 1 Full blood count at initial assessment

Nature of Specimen		Time Collected		CAS	Clinical Details	
Blood		28/2/27		Ward/Clinic		
Examination Reqd.		SFUR, LFT		Consultant		
Age	Sex	Tribe	Nationality	Religion	Doctor's signature	
LABORATORY REPORT (For Lab Use Only)				Lab. Ref. No.		
TEST & UNITS	CON. LIMITS	RESULT	TEST & UNITS	CON. LIMITS	RESULT	
GLUCOSE (F)	mmol/L 3.6 - 5.6		TOTAL PROTEIN	g/L 62-80		
GLUCOSE @	mmol/L 3.6 - 6.7		ALBUMIN	g/L 30-50		
GLUCOSE (PP)	mmol/L		GLOBULIN	g/L 18-30		
BILIRUBIN TOTAL	umol/L 8.0 - 17.0	7.0	CSF PROTEIN	g/L 0.15-0.4		
BILIRUBIN DIRECT	umol/L Less than 8	5.0	CSF SUGAR	mmol/L 2.5-5.0		
ALKALINE PHOSPHATASE	iu/L 25-92	129.5	CAERULOPLASMIN	mg/L 300-600		
ALKALINE TRANSAMINASES	iu/L 3-40	36	IRON	mmol/L 13-32		
ASPARATE TRANSAMINASES	iu/L 5-40	22	TIBC	mmol/L 45-70		
SODIUM	mmol/L 135-145	140	MAGNESIUM	mmol/L 0.72-1.0		
POTASSIUM	mmol/L 3.5-5.0	4.2	UPASE	iu/L		
BICARBONATE	mmol/L 21-31	29	ALDOSE	iu/L		
CHLORIDE	mmol/L 97-108	105	ALPHA FETOPROTEIN			
UREA	mmol/L 2.5-8.5	4.8	GPD			
CREATININE	umol/L 44.2-194.5	74.6	PREGNANCY TEST			
CPK (MALE)	iu/L 5-55		PSA	ng/ml <4.0		
CPK (FEMALE)	iu/L 5-35		HbA1c	% <7.0		
CPK (MB)	iu/L Less than 8		FSH	mIU/mL		
TOTAL CHOLESTEROL	mmol/L 3.6-6.2		LH	mIU/mL		
HDL	mmol/L 0.8-1.7		PROGESTERONE	ng/ml		
LDL	mmol/L 1.9-3.6		PROLACTIN	ng/ml		
VLDL	mmol/L 0.4-1.3		TSH	0.4-4.2		
TRIGLYCERIDE	mmol/L 0.51-2.2		T ₁	ng/ml 0.8-2.0		
ACID PHOSPHATASE (T)	iu/L 0.9-91		T ₂	ng/L 4.5-11.8		
ACID PHOS. PROSTATIC	iu/L Less than 10		OTHERS			
AMYLASE	iu/L 130-320					
CALCIUM	mmol/L 2.2-2.8					
INORGANIC PHOSPHORUS	mmol/L 1.1-1.6					
URIC ACID	mmol/L 0.08-0.4					

Figure 2 Kidney and liver function tests

Blood

Tests: Ruls, HCV, HBsAg

Date of Request: 5/2/26 Signature of Doctor: _____

URINALYSIS

Appearance: _____
 PH: _____
 Glucose: _____
 Protein: _____
 Bilirubin: _____
 Urobilinogen: _____
 Nitrite: _____
 Ketones: _____
 Ascorbic Acid: _____
 Blood: _____

STOOL ANALYSIS

Macroscopy: _____
 Microscopy: _____
 Occult Blood Tests: _____

URINE MICROSCOPY

pus Cells: _____
 RBC: _____
 casts: _____
 epithelial Cells: _____
 crystals: _____
 others: _____

Ruls : Negative
HCV : Negative
HBsAg : Negative

Offine 13/2/26

Figure 3 Viral screenings

Sex: Female Age: 23
 Request Date: 13/10/2025 9:03 am Date Prepared: 13/10/2025 12:39 pm
 Ward/Clinic: null Requesting Clinician: _____
 Provisional Diagnosis: _____
 Clinical Summary: _____

Radiology Number: 3013/25

Indication:
 Leiomyoma USS Report

Findings:
 The uterus is anteverted and non-gravid and bulky and measures 19.55 x 9.49cm.
 Its endometrial stripe measures 0.31cm.
 Its fundal aspect of the myometrium harbours a submucosal solitary hypoechoic round mass which measures 8.36 x 9.15cm and casts posterior acoustic shadow.
 The left ovary was visualized and show normal features. The cul-de-sac is free.
 The liver (span- span- 14.14cm), spleen (span- 9.17cm), gallbladder, pancreas, both kidneys (RK- 9.09 x 3.55cm, LK- 9.19 x 4.25cm), imaged bowel loops and urinary bladder show unremarkable sonologic features

Conclusion:
 Uterine Leiomyoma

Figure 4 Abdominopelvic ultrasound scan

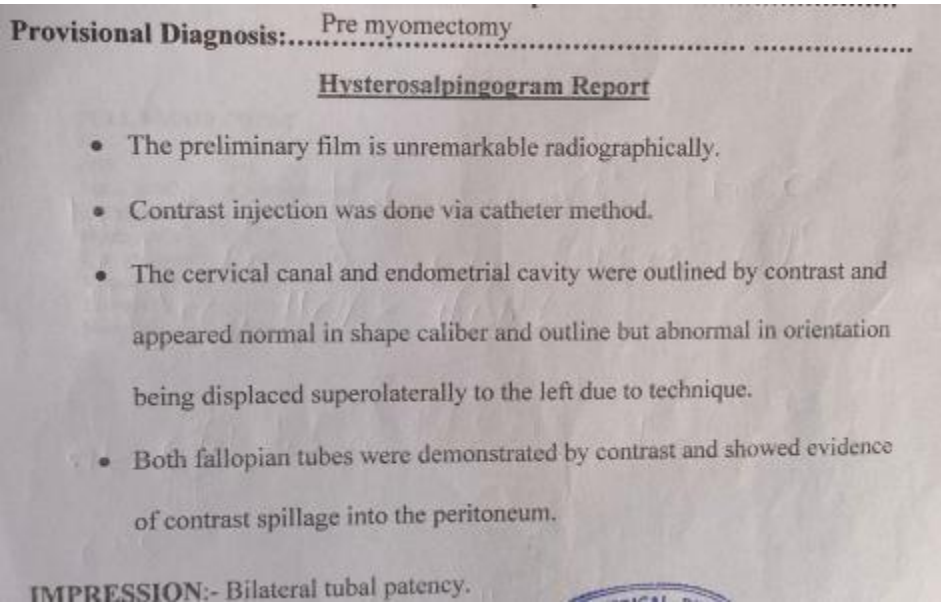


Figure 5 Premyomectomy hysterosalpingogram

Name of Specimen.....
Provisional diagnosis.....
Clinical Details.....
Exam Required.....
Provision Haematology request.....
S/NO.....
Name of Doctor.....

LABORATORY REPORT

RBC..... X=12/1
Hb..... XG/dl
P.C.V..... 35%..... I/I
MCHC..... G/dl
M.C.V..... fl
Retics..... %
Platelets..... x109/l
ESR..... mm/1st hr
Report of film.....

Laboratory.....

DIFFERENTIAL COUNT

CELL	TYPE
Blasts	NEUT
Pro Myelo	EOSIN
Myelocyte	BASO
Meta Myelo	LYMPH
Bands	MONO
NUC Reds	
Prolymph	
Promono	

Sickling.....
Genotype.....

Consultant Haematologist.....
Date.....

Chief Med. Lab. Scientist.....
Date Reported 2/03/2026

Figure 6 Preoperative haematocrit



Figure 7a Intraoperative findings of fibroid uterus, Right ovarian and ipsilateral peritubal cysts

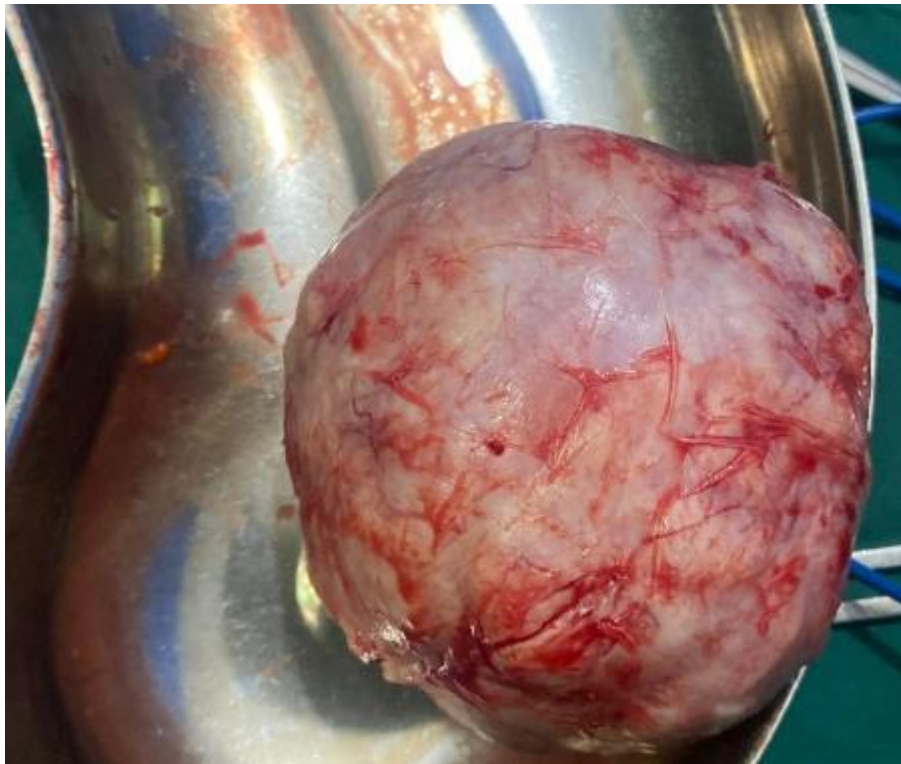


Figure 7b Fibroid enucleated



Figure 7c The total number of fibroids (4 pieces) after immersing in the formalin preservative

3. Discussion

Uterine leiomyoma is the commonest benign genital tract tumour in women of reproductive age [22,23] as well as the commonest reason for gynaecological consultations in most Nigerian hospitals [24-27]. Most of uterine fibroids are asymptomatic, with approximately 30% of them causing severe symptoms such as menorrhagia, pelvic pain or pressure symptoms colorectal and or urinary complaints [28] and these are commonly seen in over 68% in women between the ages of 31 and 50 [9,10] and low or even absent below 24 years of age [12]. Although the exact aetio-pathogenesis of uterine fibroids is not known, oestrogen and progesterone have been widely postulated to proliferate tumour growth as fibroids rarely occur before menarche and reduces after menopause [3,4] when their serum levels are considerably low. Playing at the background of these two fibroid trophic hormones are common identifiable risk factors such as ethnicity, genetic predisposition, age, hypertension, early menarche, late menopause, polycystic ovarian syndrome (PCOS), and nulliparity [5-7]. This hormonal effect means that the initiation and growth of uterine fibroids to symptomatic level requires some length of years of exposure to effect uterine fibroid proliferative process. Hence, uterine fibroids presenting with symptoms is rare in the younger reproductive age groups. Our patient who was barely 23 years old presented with complaints of lower abdominal swelling of 3 years and heavy menstrual flow of 6 months duration due to uterine fibroids. This showed that her symptoms started at the age of 20 years. The positive history of symptomatic uterine fibroid in her first degree relative could be a predisposing factor for earlier development of symptomatic uterine at this young age. Similar rare cases of symptomatic uterine fibroids in younger age groups have been reported by researchers across the globe [13-21].

Symptomatic uterine fibroids at a younger age of 20 years with similar symptoms of lower abdominal swelling and heavy menstrual bleeding warranting successful myomectomy was reported in Pakistan [14] by Rashid and his study groups. These symptoms were different from a report in Romania [15], by Bucuri and his study groups where vesicovaginal Leiomyoma presented with history of complete inability to achieve penetrative sexual intercourse despite

multiple attempts due to a feeling of sensation of a “blocking mass”, however, positive family history of symptomatic uterine fibroids was a common finding in the cases as was equally seen in our patient.

Similar reports of symptomatic uterine fibroids have been made even in much more younger adolescents ranging from the age of 12 years to 19 years [13-21]. In Tanzania, Ernest and his study group reported a 19-year-old female with six months history progressive lower abdominal swelling due to uterine fibroids for which she had myomectomy as was seen in our patient who was also of the black race but differed from our findings as she did not have any genitourinary symptomatology [13]. A closely related findings were documented in Egypt by Ayyad and his study group in a two-case series where menorrhagia/vague abdominal pain and progressive abdominal swelling due to uterine fibroids in 17 year old (case 1) and 19 year old (case 2) adolescents respectively were reported [17]. These findings were closely related to our findings in terms of symptoms of heavy menstrual bleeding in case (1) as well as abdominal swelling in case (2) but differed in the age of occurrence as our patient was much older. Other case reports were abdominal swelling and heavy menstrual bleeding due to multiple uterine fibroids in an 18 year old adolescent in Lagos State, South West Nigeria by Akinajo and his study groups [18]. These were similar to our findings except that our patient was older. In Palestine, a case of gradually increasing abdominopelvic pain due to uterine fibroids was reported by Barahmeh [19] and his study group in a 17 year old adolescent and she had myomectomy which was similar to the treatment given in the management of our patient. However, our patient was older. In Italy [20], Derme and his colleagues reported a case of 16-year old Caucasian with abdominal pains and dysmenorrhea due to symptomatic uterine fibroids. She had both expectant and pharmacologic care with good outcome. This management was different from the surgical approach used for our patient. The conservative and pharmacologic approach was possibly due to the lower degree of her symptoms and radiologic evaluation follow up that showed no significant change in the size of the myoma. Another rare adolescent symptomatic uterine fibroid was the case reported by Kumura and his study group of a prolapsed submucous uterine fibroids successfully managed with endosnare in a much younger 12 year old single nulliparous adolescent in Hawaii [21]. She had heavy menstrual flow as was seen in our patient but was much younger. These rare findings of symptomatic uterine fibroids in the younger reproductive age groups should be borne in mind by gynaecologists as they evaluate patients at this age group, hence, this case report and literature review.

4. Conclusion

Uterine fibroids though common among women older than 25 years and still nulliparous, this case report has brought to limelight the occurrence of uterine fibroids in the younger age group. It also reveals that such age brackets can develop significant symptoms from the pathology.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from the patient before the publication.

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