

RARE IMAGING MANIFESTATION OF A COMMON GYNECOLOGICAL ENTITY

¹Dr. Juvaina P., ^{2*}Dr. Sumayya U. P., ³Dr. Gomathy Subramaniam, ⁴Dr. Naufal perumpalath, Dr. Saanida M. P., ⁶Dr. Soumya Hareendranath

^{1, 5, 6}Assistant Professor, Government Medical College, Kozhikode.

²Junior Resident, Government Medical College, Kozhikode.

³Professor, Government Medical College, Kozhikode.

⁴Associate Professor, Government Medical College, Kozhikode

***Corresponding Author: Dr. Sumayya U. P.**

Junior Resident, Government Medical College, Kozhikode.

Article Received on 20/03/2018

Article Revised on 10/04/2018

Article Accepted on 01/05/2018

ABSTRACT

As growth of uterine fibroid is oestrogen dependent, it tends to regress after menopause. Symptomatic fibroid degeneration in a postmenopausal female, is therefore exceedingly rare. Here we report a case of an unusual type of degeneration in a fibroid in a postmenopausal female which simulated a surgical abdomen.

KEYWORDS: Degeneration, fibroid, postmenopausal, CT, air, rupture.

CASE REPORT

A 61 year old postmenopausal female presented with history of abdominal distension for 2 months duration presented to the emergency department with absolute constipation of 3 days and acute urinary retention of 1 day. There was no history of fever, vomiting, bleeding or discharge per vaginum. She is a known diabetic on oral hypoglycemic agents; however her blood glucose level was elevated at the time of admission. On clinical examination she had bilateral pitting pedal edema. Abdominal examination revealed a large mass occupying the central abdomen extending to bilateral lumbar region and iliac fossae. Laboratory examination revealed elevated total count and serum creatinine and RBS value of 560 mg/dl.

Because of elevated serum creatinine, she was evaluated with plain CT sections of abdomen which revealed a large intraperitoneal mixed density lesion measuring 18.7x26.3x28.3cm with multiple air pockets, calcific foci and soft tissue density areas converging to the right side of uterus. The bowel loops were displaced superiorly and to either sides. A few pockets of extra luminal air was noted in the right anterior sub phrenic space suggestive of pneumoperitoneum. There was ascites, bilateral pleural effusion and bilateral hydronephrosis. A CT report of rupture of an infected dermoid cyst, probably from right ovary was given.

Patient underwent exploratory laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy with Boari flap reconstruction, ureteroneocystostomy and suprapubic cystostomy. Intraoperatively there was a tumour arising from the

uterus with solid and cystic consistency and emphysematous changes. Tumour was adherent to right ureter and distal ileum. There was mild ascites.

Tumour was sent for histopathological examination. Cut sections showed greyish white whorled areas with no areas of haemorrhage or necrosis and microscopy showed interlacing bundles of smooth muscle fibres with large areas of hyaline degeneration suggestive of leiomyoma with degenerative changes. Postoperative period was uneventful.

FIGURES

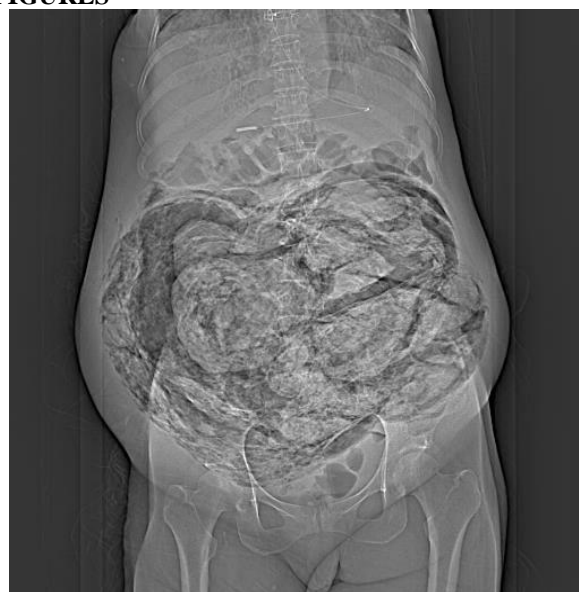


Fig 1: Scout image showing mixed density lesion filling the abdomen with mottled air densities within.

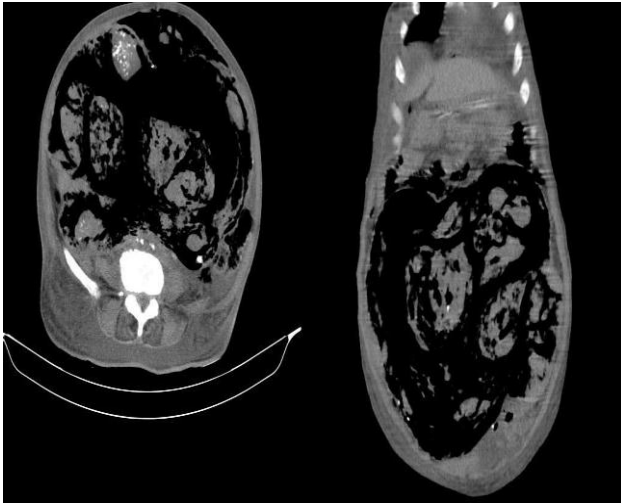


Fig 2: Plain axial & coronal CT sections showing mixed density lesion with multiple air pockets, calcific foci and soft tissue density areas. In coronal section extraluminal air pockets can also be seen



Fig 3: intraoperative image showing emphysematous changes within the lesion.



Fig 4: Cut section of the mass showing greyish white whorled areas.

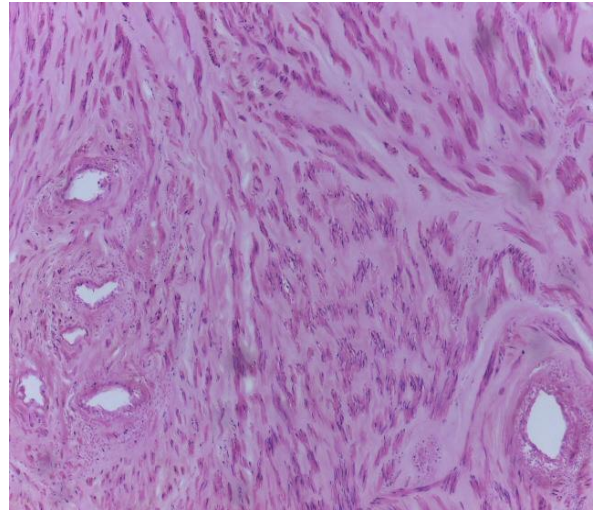


Fig 5: Microscopy showing interlacing bundles of smooth muscle fibres with large areas of hyaline degeneration.

DISCUSSION

Leiomyoma or fibroid is the most common tumour of the uterus and female pelvis. They can be asymptomatic or present with symptoms of infertility, abnormal uterine bleeding, mass per abdomen, pain etc. As fibroid enlarges they outgrow their blood supply causing various types of degenerations. Most common degeneration described is hyaline degeneration (60%). Cystic (4%), red (3%), calcareous (4%) or sarcomatous degenerations (0.1-0.8%) are also described. Degenerated fibroids are great mimics so they pose a diagnostic challenge to radiologists most often.

Degenerative changes are considered to result from excessive growth that outmatches the blood supply or mechanical compression of feeding arteries. Although the precise mechanism of degeneration of fibroid in postmenopausal woman remains unclear, excessive production of growth factors (epidermal or insulin like) from the fibroid might explain this condition.

Infected leiomyoma (pyomyoma) may have air within. Pyomyoma is a rare, but potentially fatal complication of uterine leiomyoma. Leiomyoma can be infected by bacterial seedling of necrotic foci, which happens mostly in the postmenopausal woman due to vascular insufficiency or in pregnancy due to haemorrhage and necrosis. It can also occur in postpartum, ascending uterine infections, abortion, bacteremia in intravenous drug abusers and following uterine artery embolization. It is most commonly seen in the pedunculated submucosal fibroid.

Presence of air in a uterine leiomyoma is diagnostic of pyomyoma. But, in our case histopathological examination did not demonstrate pus within the examined fibroid specimens or any inflammatory cells in the microscopy. So presence of air in a non-infected leiomyoma is not yet reported to our knowledge. Presence of air in the setting of degeneration is described

in the joints, intervertebral discs and bones due to liberation of nitrogen gas but it is not yet described in degenerated fibroids. The postulated reason for development of air in our case may be due to the lesion eroding into the uterine cavity.

Third rarity of this case in addition to the degeneration of fibroid in a postmenopausal woman with intratumoral air in the absence of infection is rupture producing pneumoperitoneum. Rupture of a degenerated fibroid is an extremely rare complication. There are case reports of rupture of degenerated fibroids producing hemoperitoneum, but not pneumoperitoneum as in our case.

CONCLUSION

Although uterine fibroid is a commonly encountered benign condition, degeneration in a fibroid can have variable patterns and can pose a diagnostic challenge. Fibroid degeneration can occur rarely after menopause. Air can also occur in a degenerated fibroid in the absence of infection and rarely it can rupture producing pneumoperitoneum as in this case. So, while reporting a mixed density intraperitoneal lesion converging to pelvis, the possibility of a degenerated fibroid should also be kept in the mind as a differential diagnosis.

Source of Support: Nil.

Conflict of Interest: None declared.

REFERENCES

1. Rajesh Shrestha, MD1, Raju Khanal, MD2, Madan Raj Aryal, MD2, Ranjan Pathak, MD2, Paras Karmacharya, MD2, Muniba Naqi, MD3. Fibroid degeneration in a postmenopausal woman presenting as an acute abdomen, *Journal of Community Hospital Internal Medicine Perspectives*, 2015; 5: 25917.
2. Yiap L. Tan1 and Aruku Naidu 2. Rare postpartum ruptured degenerated fibroid: A case report. *J. Obstet. Gynaecol. Res*, May 2014; 40(5): 1423–1425. doi:10.1111/jog.12334
3. Sonal Bhuyar, Bhavana Sontakke, Pooja Mukund Rajbhara. Degenerated fibroid - a diagnostic challenge. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* Bhuyar S et al. *Int J Reprod Contracept Obstet Gynecol*, Jan, 2017; 6(1): 292-294. www.ijrcog.org
4. Avantika Gupta, Madhavi Mathur Gupta, Usha Manaktala. Ascending infection causing pyomyoma in a young woman. *The Egyptian Journal of Radiology and Nuclear Medicine*, 2014; 45: 1017-1020.
5. Neha V. Bhave, P. K. Shah, Hemangi Chaudhari. An unusual presentation of, degenerating fibroid. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* Bhave NV et al. *Int J Reprod Contracept Obstet Gynecol*, Feb, 2016; 5(2): 582-584. www.ijrcog.org
6. Chika C. Obele, Samantha Dunham, Genevieve Bennett, Johanna Pagan, Lok Yun Sung, and Hearn W. Charles. A Case of Pyomyoma following Uterine Fibroid Embolization and a Review of the Literature, *Case Reports in Obstetrics and Gynecology*, 2016; 9835412: 5.