

Letters

FOLLOW UP AFTER PEG TUBE INSERTION.

Editor,

Having a feeding tube in situ made me have more than an academic interest in the article *Who Follows Up Patients After Peg Tube Insertion?*¹. Because of complete oesophageal blockage my gastrostomy was performed at laparotomy. However to all intents and purposes the insert is a PEG tube.

Before discharge from the Royal Victoria Hospital, Belfast, my daughter and I were well trained in the use and care of the tube and how to get help in an emergency. A dietician and a specialist nutrition nurse advised on amounts of liquid feed to use and as to the necessity for flushing the tube frequently.

My General Practitioner was informed of the date of my discharge as were the District Nursing Service, the Community Dietician and the Occupational Therapists so all necessary equipment was waiting for me at home. A District Nurse visited my daughter before my discharge and met me at her home on the day of discharge to ensure that necessary equipment had been delivered and we were fully trained in the care of the tube. During my second night at home the alarm on the feeding pump activated and feeding stopped. Next morning a District Nurse confirmed that the tube was still in the stomach and that the balloon was intact. No cause for alarm was found. It was comforting to know that expert help was available as and when required.

The Article states '*Ideally all patients should have community follow-up by a dietician, speech and language therapist, and an appropriately trained professional who can deal with problems and advise accordingly*'¹. In the area covered by the former Ulster Community & Hospitals Trust the District Nurses are performing that duty admirably. I cannot speak too highly of my treatment in hospital and since my discharge.

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REFERENCE:

1. Lowry S, Johnston SD. *Who Follows Up Patients After PEG Tube Insertion?* *Ulster Med J* 2007;**76(2)**:88-90.

Editor

The article on PEG Tubes by Lowry and Johnston¹ fails to mention if the patients in the survey were referred to the District Nursing Service which is best placed for the seamless transfer from secondary to primary care. The successful discharge of a patient requiring enteral feeding requires good forward planning and liaison between hospital and community nursing staff. Best practice would dictate the District Nurse visiting the patient in the ward for an holistic assessment but if this is not possible, a visit to the home before discharge to introduce herself, to assess the layout and equipment requirements and let the family know who to contact and what support to expect when the patient comes home.

Most families require time to adjust and need the support of the evening nursing service to help set up the night feed and a morning call to supervise disconnecting and flushing the tube until they feel confident enough to do this themselves. The time is well spent and forges the supportive, trusting relationships essential in primary care and possible palliative and terminal care at home.

This level of care is available to all patients in this trust and yet your article mentioned the District Nursing Service only in saying that we 'may not have been trained in the insertion of balloon gastrostomy replacement tubes'. Although many of us are, this is not pertinent to research looking at 'appropriate community follow up' six months following discharge from hospital when this needs to be performed in a hospital environment.

The article also mentioned '*patients attending busy Accident & Emergency departments when the PEG tube falls out*'. However it failed to mention the number of patients discharged from these units with totally inadequate Foley catheters inserted due to the lack of adequately trained personnel, which is my experience! I welcome the debate but please remember, come 5pm on a Friday, where are the Dietician and the Speech & Language Therapist!

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AUTHORS REPLY

It is encouraging to see that Mr. Gallagher is so positive regarding his aftercare following PEG (Percutaneous Endoscopic Gastrostomy) tube insertion. This is a real credit to those involved in his care and support.

In reply to Sr. McGivern, we would point out that the Nutrition Nurse specialists in our trust send a letter (via the patient) to the District nursing services. We recognise that in an ideal world the District Nurses would visit patients in hospital or their carers at home pre-discharge to enable a seamless transition into the community. However, this would be difficult in the Belfast City Hospital since we provide a regional PEG tube service¹ for patients being treated through the cancer centre e.g. head and neck cancer patients. For these patients the hospital stay for PEG tube insertion may only be overnight. For other patients e.g. following stroke, the holistic approach to case management should be employed. In some patients, significant consideration should be given to who will provide PEG care on discharge when assessing patients prior to PEG tube insertion.

The observation that patients are discharged from Accident and Emergency units with inadequate Foley catheters in-situ is clearly a cause for concern and does highlight the need

for more training and widespread availability of gastrostomy replacement tubes. Replacement gastrostomy tubes are expensive and it is impractical to have every size and make available. In addition, attending staff need to know what size of PEG tube was removed / dislodged in order to replace a similar size and unfortunately this information is not always available. All attending professionals caring for patients in the community following PEG tube insertion have a responsibility to be fully informed and competent.

It is our current practice that all patients being discharged with new PEG tubes are given a replacement gastrostomy tube and instructions as to what to do if the original tube becomes dislodged. This advice includes bringing it with them to Accident and Emergency unit if a hospital visit is required. Nutrition Nurse specialists in our trust send a letter to the District nursing services which also includes the requisition numbers for replacement gastrostomy tubes and the request that these are ordered and available in the patients' homes. Contact details of the Nutrition Nurse specialist are also contained in the documentation.

We would dispute that our comments regarding the ability of District Nurses to replace gastrostomy tubes are inappropriate since this "needs to be performed in a hospital environment". Ideally, trained professionals in the community are suitably situated to replace gastrostomy tubes to avoid unnecessary trips to Accident and Emergency units.

The letters have identified several areas for possible service development. We greatly appreciate the comprehensive service provided in the community by our District Nursing colleagues and others.

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SYMPTOMATIC HYPERPHOSPHATAEMIA FOLLOWING PHOSPHATE ENEMA IN A HEALTHY ADULT

Editor,

Adequate colonic cleansing is essential for accurate and safe colonic procedures¹. Common preparations for cleansing include diet in combination with a cathartic agent (stimulants), gut lavage, and phosphate preparations (osmotics). Phosphate preparations offer an attractive alternative due to smaller volumes required for ingestion. We report an unusual case of acute hyperphosphataemia following the administration of a phosphate enema.

Case report: A 79 year lady with a six month history of lower abdominal cramps and diarrhoea including mucous per rectum underwent flexible sigmoidoscopy. She had taken

one sachet of picolax (10mg sodium picosulfate) as bowel preparation the night before and reported minimal effect. As such she received a single phosphate enema at 09.30. This contained 30.8g of sodium phosphate in 118ml delivered by a standard rectal tube. She became unwell within 10-15 minutes with severe nausea and dizziness. Observations demonstrated a heart rate of 86 beats per minute and a blood pressure of 80/34mmHg. Bloods were taken for urea and electrolytes and a normal saline infusion was started. Over the subsequent 90 minutes her blood pressure improved to a systolic of 100mmHg and her heart rate fell to 60 beats per minute. Her blood results were normal with the exception of a phosphate of 2.65 mmol/L (0.8 – 1.55). Her symptoms and clinical observations continued to improve and by 11.30 she was able to undergo flexible sigmoidoscopy which was normal. Repeat blood tests two days later were normal (phosphate 1.31mmol/L). At subsequent outpatient review a small bowel series and ultrasound scan of abdomen were normal. Barium enema demonstrated mild sigmoid diverticular disease. Eight months later her gastro-intestinal symptoms had settled.

Discussion: Asymptomatic hyperphosphataemia with levels 2-3 times above normal has been reported in nearly 25% of individuals with normal renal function after administration of oral phosphate-based laxatives². Current recommendations³ simply suggest caution in the elderly and those with renal impairment. Multiple case reports exist warning of the dangers of oral phosphate-based laxatives in patients with renal disease and in paediatrics and only a handful of accounts of hyperphosphataemia have been reported in patients receiving phosphate-based enemas in similar patient groups^{4,5}.

The mechanism of hyperphosphataemia in renal impairment is felt to be secondary to decreased excretion of phosphate by the kidneys. In paediatrics it is believed to occur due to large volumes of phosphate containing solution, relative to the child's size. Other recognised causes following oral phosphate based laxatives include Hirschsprung's disease, faecal impaction, or functional intestinal obstruction where increased gastrointestinal phosphate absorption may occur, elderly age because of the diminished intestinal motility, and increased intestinal permeability in the presence of inflammatory intestinal disorders⁶.

There are no cases in the literature of hyperphosphataemia arising due to diverticular disease following phosphate-based enema. However one could postulate that, for the reasons mentioned above, it could be an aetiological factor albeit unlikely in this instance due to the absence of significant disease or active inflammation. In summary this case report highlights the need for vigilance even in patients deemed low risk of developing hyperphosphataemia following a phosphate-based enema.

The authors have no conflict of interest.

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PERIANAL LEIOMYOMA INVOLVING THE ANAL SPHINCTER.

Editor,

Leiomyomas are benign soft tissue tumours of mesenchymal origin and can develop wherever smooth muscle is present. Their pathogenesis remains obscure. Deep soft tissue leiomyomas are rare and are further classified as somatic and retroperitoneal. Whereas the former have a predilection to occur in extremities (usually in the thigh) the latter usually occur in the pelvic retroperitoneum¹. We report a case of perianal leiomyoma stretching the muscle fibres of the external sphincter. Reports of perianal leiomyomas are sparse in the literature. Features of deep soft tissue leiomyomas, anal leiomyomas and their management are discussed.

Clinical background: A 45-year-old female presented with a history of a painless swelling in the perianal region for 18 months, gradually increasing in size. Clinical examination revealed a 30mm diameter extrasphincteric swelling in the rectovaginal septum. Endoanal ultrasonography showed a soft tissue mass related to the anterior and lateral wall of the anal canal over its entire length. Although the mass appeared to be entirely outside the external sphincter complex there was a suspicion of sphincter involvement anteriorly. The lesion was well defined and homogeneous in texture with an intermediate to low signal intensity on T2 weighed magnetic resonance imaging (Figure 1). Fat saturation (FAT SAT) & Short Tau Inversion Recovery (STIR) sequences suggested that the lesion displaced rather than infiltrated the sphincter. There was loss of visualisation of the lower subcutaneous and superficial components of the external sphincter with a suspicion of extension to the deeper component of the anal sphincter.

An elective excision was performed with a circumanal incision. Sphincter fibres were stretched over the surface of the lesion. Complete extra capsular dissection of the lesion was performed in continuity. Sphincter fibres were divided and repaired with 2° PDS.

Macroscopically, the tumour was solid and well circumscribed with a whorled white cut surface without gross cystic



Fig 1. MR sequence with T2 weighting with fat saturation demonstrating an ovoid shaped low signal mass in relation to the right side of anal canal displacing the fibres of external sphincter.

degeneration or necrosis. The tumour measured 65mm in diameter. Histological examination revealed a circumscribed smooth muscle tumour consisting of interlacing fascicles of bland spindle cells admixed with focal areas of myxohyaline stroma. There was no cytological atypia, abnormal mitotic activity or necrosis. Only one or two mitoses were identified in the sections examined. Immunohistochemistry demonstrated strong positivity for smooth muscle markers desmin (Figure 2) and actin. Positivity for estrogen and progesterone receptors was also noted. CD117 was negative. Two months after the surgery, the patient has no incontinence with good sphincter tone.

Discussion: First described by Virchow in 1854, leiomyomas are benign soft tissue tumours that arise from smooth muscle accounting for 3.8% of all benign soft tissue tumours¹. Klopfer originally noted a hereditary syndrome characterised by multiple leiomyomas in 1958. Leiomyomata can develop

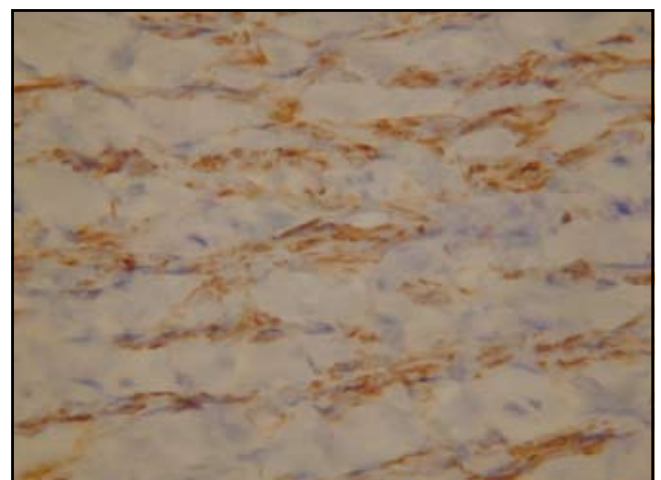


Fig 2. Immunohistochemical staining for Desmin (immunoperoxidase, x 250)

wherever smooth muscle is present, the commonest site being the uterine myometrium.

Leiomyomas are classified into superficial pilar, genital, angioliomyoma and deep varieties. The pathological features of deep soft tissue leiomyomas were first described by Kilpatrick et al² and Billings et al³. They are further categorised as somatic and retroperitoneal types^{2,3}. Whereas somatic soft tissue leiomyomas affect the sexes equally with predilection to the extremities (usually in the thigh), retroperitoneal leiomyomas occur preferentially in women during the peri-menopausal period, usually in the pelvic retroperitoneum¹.

Somatic leiomyomas most often present as a localised mass. In addition, perianal leiomyomas tend to cause discomfort in the seated posture and also during defecation. Gastrointestinal symptoms such as constipation and bleeding are uncommon. The perianal region is a rare site and proximity to the sphincter complex can have considerable implications for operative management¹. Examination reveals small rubbery to large lobulated firm lesions with intact mobile mucosa in those with endoluminal extension.

Macroscopically, deep soft tissue leiomyomas tend to be well defined and are usually surrounded by a fibrous pseudocapsule. They tend to be larger than superficial leiomyomas since they tend to remain occult by virtue of their site. Histologically, somatic soft tissue leiomyomas are composed of interlacing bundles of mature smooth muscle cells with abundant eosinophilic cytoplasm which, by definition, lack atypia and necrosis and are mitotically inactive (<1 mitoses/50 high power fields). Myxohyaline degeneration and regressive changes are constant features. Foci of dystrophic calcification are commonly present.

Unlike somatic soft tissue leiomyomas, 20% of retroperitoneal or abdominal leiomyomas display low levels of mitotic activity (<5 mitoses / 50 HPF⁴ or <1-10 /50 HPF³). Leiomyomas of the anal canal arise in the muscle coat or less commonly in the muscularis mucosae. They grow slowly and the anoderm usually remains intact. Within the rectum and anal canal, leiomyomas can adopt different growth patterns, namely endoluminal, intramural or extraluminal. Most leiomyomas of the large bowel and rectum grow endoluminally whereas tumours of the anal canal tend to grow away from the lumen⁵. Sometimes they grow in both directions, forming an 'hour glass'.

Many tumours previously regarded as leiomyomas of the gastrointestinal tract are now considered as GISTs. Although the incidence of anal canal GIST is low (<2%), 10 to 30% of GISTs are malignant⁶. GISTs are more common than other mesenchymal tumours of the gastrointestinal tract except in the oesophagus where leiomyomas predominate. GISTs are differentiated from leiomyomas on the basis of immunohistochemical staining patterns including positivity for CD117, CD34, and smooth muscle actin and are usually negative for desmin that tends to be expressed by the latter⁶. Currently the best indicator of malignancy in GISTs is the presence of invasion of adjacent organs or metastatic disease seen on imaging or at surgery.

The treatment of choice for anal canal leiomyomas and low grade GISTs is excision. Sphincter preservation should be possible. High grade GISTs require wide excision that might lead to considerable sphincter damage⁵. Unlike GISTs, deep soft tissue leiomyomas have a low recurrence rate if local excision is complete^{2,4}. Deep soft tissue lesions that lack atypia, necrosis and mitotic activity and retroperitoneal lesions with <10 mitoses / 50 HPF can be labelled benign with reasonable confidence expecting a good outcome. Lesions falling outside this criteria and not obviously malignant (characterised by atypia and mitoses) should be considered as tumours of uncertain malignant potential in which case a regular follow up is advised^{5,6}.

Conclusion: Deep soft tissue leiomyomas in the perianal region are rare. They may mimic anal leiomyomas and GISTs when they extend close to the sphincter. Despite the similarity in clinical presentation, histological features and prognosis, it is important to identify GISTs based on immunohistochemistry for CD117 since those with malignant potential require regular follow up and many of these tumours will benefit from imatinib mesylate, an inhibitor of the c-kit tyrosine kinase receptor. As with all spindle cell neoplasms, meticulous histopathological attention to the presence of significant mitotic activity, atypia and necrosis is essential since these factors would suggest potential malignant behaviour in which case a more radical surgical excision and follow up would be warranted.

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