

## Letters

### IMPACT OF THE COVID PANDEMIC ON RHEUMATOLOGY PATIENTS IN NORTHERN IRELAND - A WEB BASED CROSS-SECTIONAL SURVEY OF PATIENT REPORTED OUTCOMES

#### Editor,

Concern for the susceptibility of rheumatology patients to severe COVID-19 illness has been raised since the start of the pandemic. Rheumatic disease and their immunosuppressant therapies placed many patients into the 'clinically extremely vulnerable' group when the UK's shielding guidance commenced on 23 March 2020. The impact of DMARDs/ glucocorticoids/biologics on COVID-19 remains under investigation<sup>1</sup>. A recent study suggested caution may be required with rituximab and sulfasalazine in COVID-19 patients<sup>2</sup>.

The objective of our study was to evaluate the impact of the COVID-19 pandemic on rheumatology patients in Northern Ireland by assessing treatment, disease progression, shielding advice, access to primary & tertiary care, overall anxiety and incidence and severity of COVID-19 infection.

A web-based cross-sectional survey was completed in Northern Ireland between 23<sup>rd</sup> November 2020 and 22<sup>nd</sup> January 2021. The questionnaire included medication history, comorbidities, disease course, patient experience, shielding advice, COVID-19 illness, hospitalisation and effects on mental health. The survey was publicised by sending 6,032 Belfast Trust NHS patients a link via SMS and via NHS/ Versus Arthritis social media platforms.

There were 2,615 responses and of these 2,539 had been completed and were suitable for analysis. The majority of respondents were aged 45+ (78.27%) and female (N=1819). Rheumatoid arthritis (41%) and psoriatic arthritis (29%) were the most common diagnoses. Just over one third (35.27%, N=896) of patients were on biological drugs. Most patients were taking methotrexate (28.04%) followed by hydroxychloroquine (15.20%) and adalimumab (12.52%). The majority (79.6%) continued treatment during the pandemic as recommended. There was evidence of disease 'flaring' in 30.75% of those patients who had stopped treatment. Of the respondents surveyed 7.8% (N=198), tested positive for Covid-19 and of these 77.55% reported that they had received adequate shielding advice. Less than one third of patients testing positive for COVID-19 had been treated with biological drugs (30.3%, N=60). Cardiovascular disease was the most prevalent comorbidity. Only 11.11% (N=22) of those who tested positive for Covid-19 required hospital admission and 2 patients required intensive care support. Both patients requiring ICU were not on immunosuppression. Of the 22 patients hospitalised with

COVID-19, 13.64% (N=3) were on solitary sulphasalazine therapy, 13.64% (N = 3) were on solitary anti-TNF therapy, 18% (N = 4) were on methotrexate alone and one patient was on combination methotrexate and anti-TNF therapy. Anxiety and loneliness to varying levels was reported in the majority of patients.

The survey showed low levels of COVID-19 hospitalisation despite most patients continuing DMARD/biologic/ glucocorticoid therapy. This has been replicated in other studies<sup>1,2</sup> however data continues to be gathered on the safety of some biologic drugs particularly rituximab<sup>3</sup>. Many patients expressed overwhelming anxiety and fear of mortality. This coupled with stringent restrictions and social isolation led to a detrimental effect on their well-being. Concern over the mental health of the rheumatology community within this pandemic has already been well recognised, and this current data highlights again the need for us as physicians to be proactive<sup>4</sup>. Our survey results also indicated high concordance with continuing prescribed treatments but highlighted the negative impact of interrupting treatment on disease control. Future data will inform our decision making regarding the safety of continuing with certain drugs<sup>5</sup>.

#### Authors:

Patrick McKee, Ashleigh Irvine, Claire Riddell, E Ball.

#### Correspondence to:

Dr Elisabeth Ball  
Belfast Health & Social Care Trust  
Musgrave Park Hospital, Stockman's Lane,  
Belfast, Northern Ireland. BT9 7JB  
**Email:** elizabeth.ball@belfasttrust.hscni.net

#### REFERENCES:

1. Robinson PC, Yazdany J. The COVID-19 Global Rheumatology Alliance: collecting data in a pandemic. *Nat Rev Rheumatol*. 2020 Jun;16(6):293-294.
2. Gianfrancesco M, Hyrich KL, Al-Adely S et al. COVID-19 Global Rheumatology Alliance. Characteristics associated with hospitalisation for COVID-19 in people with rheumatic disease: data from the COVID-19 Global Rheumatology Alliance physician-reported registry. *Ann Rheum Dis*. 2020 Jul;79(7):859-866.
3. Strangfeld A, Schäfer M, Gianfrancesco MA, et al. Factors associated with COVID-19-related death in people with rheumatic diseases: results from the COVID-19 Global Rheumatology Alliance physician-reported registry. *Ann Rheum Dis* Online First: 27 January 2021. doi: 10.1136
4. Nune A, Iyengar KP, Ahmed A et al. Impact of COVID-19 on rheumatology practice in the UK-a pan-regional rheumatology survey. *Clin Rheumatol*. 2021 Jan 25:1-6. doi: 10.1007/s10067-021-05601-1.
5. Mikuls TR, Johnson SR, Fraenkel L et al. American College of Rheumatology Guidance for the Management of Rheumatic Disease in Adult Patients During the COVID-19 Pandemic: Version 1. *Arthritis Rheumatol*. 2020 Aug;72(8):1241-1251.



## REVISITING PSYCHOLOGICAL AUTOPSY RESEARCH OF SUICIDE IN NORTHERN IRELAND

### Editor,

A contemporary, scientific understanding of suicide is required to devise a meaningful prevention strategy in Northern Ireland. Psychological autopsy (PA) suicide studies comprise sensitive interviews with bereaved informants and clinicians (GPs, psychiatrists, etc), combined with meticulous scrutiny of records (coronial, healthcare, social care, etc).<sup>1</sup> For more than six decades these studies have contributed immensely to appreciation of the biopsychosocial complexity of suicide. The low incidence of suicide means that a case-control PA is the most pragmatic research design to identify risk/protective factors.

In the sole case-control PA study in Northern Ireland (suicides 1992-1993)<sup>2</sup> there was an estimated 38-fold increased risk of suicide linked to the presence of at least one current DSM-III-R<sup>3</sup> Axis I mental disorder (depressive disorders, primary non-affective psychoses, psychoactive substance use disorders). Other risk factors were: presence of at least one Axis II (personality) disorder; previous self-harm; mental health service contact ever, particularly current; current unemployment; manual social class; GP contact within 26 weeks; occurrence of at least one adverse life event during the previous 52, 26, 12 and 4 weeks, notably a “serious problem with close friend, neighbour or relative” (also “broke off a steady relationship”, “problems with police or court appearance” and a “serious illness, injury or assault”).<sup>4</sup> Axis I-Axis II comorbidity conferred a much higher risk compared with Axis I disorder(s) only. Exposure to civil disorder (“the Troubles”) did not increase suicide risk. Higher religious commitment was protective against suicide.

Apart from the contributions of prevention, early diagnosis and effective treatment of mental disorders to suicide risk reduction, the Northern Ireland Suicide Study findings indicated that suicide prevention necessitated 1) high quality self-harm services; 2) minimisation/mitigation of unemployment; 3) public education/intervention regarding interpersonal problems; 4) recurrent suicide risk assessment/mitigation training for multidisciplinary practitioners within healthcare especially primary care, mental health services and general hospitals; and 5) recurrent suicide awareness/intervention training within the police service, the court service and the third sector. All of these remain relevant now.

The authors of a recent review of suicide in Northern Ireland recommended that suicide research/prevention should “focus on the transgenerational effect of the conflict (“the Troubles”), youth suicide, suicide prevention in minority groups, and the criminal justice context”.<sup>5</sup> Northern Ireland needs another case-control PA suicide study soon. Study objectives may include: 1) updating the prevalence of mental disorders including comorbidity (noting temporal

relationships) and disorder-specific suicide risk; 2) a more nuanced understanding of the suicidogenic impact of adversity including timing (distal/proximal, chronic, acute-on-chronic, anticipated) and dependence/independence of individual behaviour; 3) analysis of interactions between mental disorders and adversity; 4) scrutiny of the likely suicidogenic effect of physical illnesses (number, type, severity, chronicity, pain, disability, delay in diagnosis/treatment); 5) defining risk factors for different age groups; 6) measurement of suicide risk linked to social deprivation; 7) consideration of any suicide risk linked to the transgenerational legacy of “the Troubles”; 8) evidencing any suicidogenic impact of COVID-19; and 9) hypotheses regarding possible protective factors e.g. social connectedness, social support, educational attainment, religion/spirituality, engagement in sport, competent social problem-solving and willingness to seek help.

### Authors:

Dr Tom Foster BSc (Hons) MD FRCPsych

Locum Consultant Psychiatrist

Email: drtfoster@outlook.com

Conflicts of interest: None.

### REFERENCES

1. Hawton K, Appleby L, Platt S, Foster T, Cooper J, Malmberg A, et al. The psychological autopsy approach to studying suicide: A review of methodological issues. *J Affect Disord.* 1998;**50**: 269-76.
2. Foster T, Gillespie K, McClelland R, Patterson C. Risk factors for suicide independent of DSM-III-R Axis I disorder. Case-control psychological autopsy study in Northern Ireland. *Br J Psychiatry.* 1999;**175**:175-9.
3. American Psychiatric Association. *DSM-III-R: Diagnostic and Statistical Manual of Mental Disorders.* 3rd ed., revised. Washington DC: The Association, 1987.
4. Foster T. Adverse life events proximal to adult suicide: A synthesis of findings from psychological autopsy studies. *Arch Suicide Res.* 2011;**5**(1):11-15.
5. O'Neill S, O'Connor R. Suicide in Northern Ireland: epidemiology, risk factors and prevention. *Lancet Psychiatry.* 2020;**7**(6):538-46.

## A RARE CASE OF MULTIFOCAL PERITONEAL INCLUSION CYST IN A MALE PATIENT

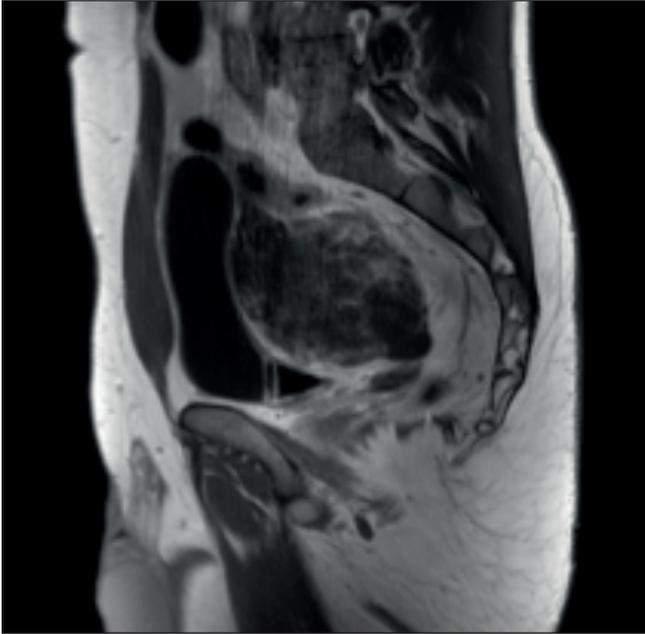
### Editor,

Multifocal peritoneal inclusion cysts (MPIC) are uncommon lesions, of which only around 20% of cases are reported in adult men. The mesothelial origin of MPICs was first demonstrated by electron microscopy in 1979, by Mennemeyer and Smith.<sup>1</sup> MPICs can occur anywhere along the peritoneal surface, arising from the peritoneal mesothelium, but are most frequently found in the pelvis as multiple, thin-walled, multi-locular cysts, that can form large intra-abdominal masses.<sup>2,3</sup> A 41-year old man presented as an emergency with a short history of pelvic pain and discomfort. He complained of bladder and rectal symptoms



UMJ is an open access publication of the Ulster Medical Society (<http://www.ums.ac.uk>).

The Ulster Medical Society grants to all users on the basis of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence the right to alter or build upon the work non-commercially, as long as the author is credited and the new creation is licensed under identical terms.



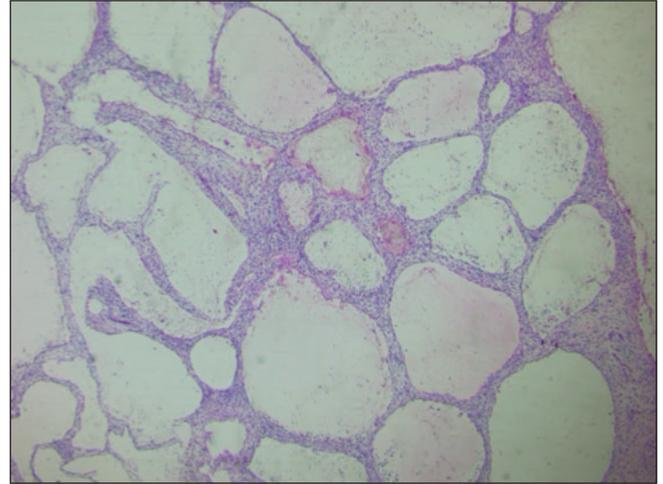
**Figure 1** MRI Pelvis

including difficulty bladder voiding and marked tenesmus. The patient's past medical history includes Guillain-Barré syndrome secondary to CMV infection. CT and MRI scan showed a large mass between the rectum and bladder (Figure 1) measuring 8.6x8.5x8.5cm. A flexible sigmoidoscopy was performed and no mucosal abnormality was detected. Blood test and tumour markers (CA125, PSA, CEA, CA19-9 and AFP) were all within normal limits. At laparotomy, a large multi-cystic mass was situated between bladder and rectum. The mass appeared to arise from the mesentery of the sigmoid colon (Figure 2). Therefore, in addition to resection



**Figure 2** Dissected multi cystic mass

of the multi-cystic mass, a sigmoid colectomy with a primary anastomosis and an appendectomy were performed. No other abnormality was detected in the rest of the colon, small bowel, stomach or gallbladder. Pathology showed a large multi-cystic mass measuring 112 x 87 x 47mm and weighing 290g. On sectioning, the mass consisted of numerous thin-walled cysts of varying size containing serous fluid. Histopathology showed a multilocular peritoneal inclusion cyst; each locule was lined by bland mesothelial cells and the septae contained fibrovascular connective tissue with



**Figure 3**

Numerous cysts lined by bland mesothelial cells with fibrovascular septa containing chronic inflammatory cells

a chronic scattered inflammatory cell infiltrate (Figure 3). There was no malignancy. Using immunohistochemistry, the cells lining the cysts were shown to express WT1 and CK5/6 in keeping with mesothelial lineage. Within the distal sigmoid colon specimen, there was a localised area of haemorrhage and a separate 12mm diameter nodule of multilocular peritoneal inclusion cyst was present on the serosal surface. The appendix showed pinworm infestation but no evidence of dysplasia or invasive malignancy. The patient made a good post-operative recovery and was discharged home six days after surgery. The patient was reviewed 6-weeks after surgery and all symptoms had resolved. A repeat CT scan of his abdomen and pelvis, 6 months after surgery showed no recurrence. We plan for annual patient follow-up. MPIC are generally considered a benign reactive mesothelial proliferation developing secondary to endometriosis, trauma, inflammation or pelvic inflammatory disease (2,3). This patient cohort would suggest that MPIC is a reaction to chronic irritation stimuli with mesothelial cell entrapment, reactive proliferation and cystic formation. Some consider MPIC to be mesothelial neoplasms with the potential for malignant transformation. The uncertainty and debate surrounding these lesions is reflected by the limited evidence available.<sup>3,4</sup> MPIC has a high rate of local recurrence and surgical resection remains the mainstay of treatment to avoid local recurrence.<sup>5</sup> It is this infrequency, which makes its origin, pathogenesis, diagnosis and therapy challenging.

**Consent** Written informed consent was obtained from the patient for publication of this case report and any accompany images. A copy of the written consent is available for review from the journal's Editor-in-Chief.

**Authors:**

Miss Charlotte Cosgrove, Surgical Registrar, Department of Colorectal Surgery, Belfast Health and Social Care Trust  
Dr Simon Rajendron, Histopathology Registrar, Institute of Pathology, Royal Victoria Hospital, Belfast

Dr Oisín Houghton, Consultant Pathologist, Institute of Pathology, Royal Victoria Hospital, Belfast  
Mr. Jack Lee, Consultant Colorectal Surgeon, Department of Colorectal Surgery, Belfast Health and Social Care Trust

**Correspondence to:** Miss Charlotte Cosgrove,  
**Email:** charlotte.cosgrove@hotmail.co.uk

#### REFERENCES

1. Mishra T, Karegar M, Rojekar A, Joshi A. *Multilocular peritoneal inclusion cyst, rare occurrence in men: A case report.* Indian J Pathol Microbiol. 2018;**61(1)**:164.
2. Veldhuis WB, Akin O, Goldman D, Mironov S, Mironov O, Soslow RA, et al. *Peritoneal inclusion cysts: clinical characteristics and imaging features.* Eur Radiol. 2013 Apr;**23(4)**:1167–74.
3. Vallerie AM, Lerner JP, Wright JD, Baxi LV. *Peritoneal Inclusion Cysts: A Review.* Obstet Gynecol Surv. 2009 May;**64(5)**:321–34.
4. Hinsch N, Rauofi R, Stauch G. *Benign cystic mesothelioma of the peritoneum in a 12-year-old boy, diagnosed via telepathology.* BMJ Case Rep. 2015 Sep 14; bcr2015211419.
5. Safioleas MC. *Benign multicystic peritoneal mesothelioma: A case report and review of the literature.* World J Gastroenterol. 2006;**12(35)**:5739.

#### MY MEMOIRS OF THE ROYAL VICTORIA HOSPITAL PACEMAKER IMPLANTATIONS IN THE WEST WING OVER HALF A CENTURY AGO!

##### Editor,

In 1964 I became a Senior House Officer in Dr. Pantridge's Wards 5 & 6 at the Royal Victoria Hospital, Belfast. In the course of my many duties, I became interested in Pacemaker Implantation, which was becoming increasingly employed in the management of patients affected by atrio-ventricular block and other cardiac abnormalities.

During this time (and until 1987) I had access to the Radiology facilities in the R.V.H. 'West Wing', which was known as the 'ACG Theatre'. This clinical theatre was situated near the far end of the 'West Wing' corridor, adjoining the main R.V.H. Corridor.

This sterile room housed equipment required for electrocardiographic monitoring of the patients, in addition to the radiology equipment, which was expertly operated by a full-time radiographer – Tom Littler, who hailed from the North of England and performed his work with military precision. There was also the large DC Defibrillator (Oh for one of today's portable machines!)

Having access to this Facility enabled me, with the assistance of a trained R.V.H. nurse, to introduce and position the pacing electrodes with high precision. During the Sixties I implanted the first cardiac pacemaker in Northern Ireland (Ulster Medical Journal, Volume 59 No. 2, pp. 131-136, October 1990.) This procedure entailed proximal fluoroscopic venous cannulation, employing a suitable accessible subclavian or

supraclavicular vein, with shaping of the proximal portion of the electrode to facilitate conduction along the course of the vessel.

The patients who were scheduled for pacemaker implantation were admitted to the Cardiology Unit on the previous day. The male patients were prepped by having their chests shaved, and were prescribed mild sedation on the evening before. The procedure was explained to the patient and the consent form was signed. Nil by mouth was permitted from midnight. I did not require the assistance of an anaesthetist but instead I prescribed heavy sedation prior to the implantation. After the procedure the patient was wheeled on a trolley and returned to the Cardiology Unit.

During the mid-1960s I did not have the option of continuous monitoring equipment, but the patient's vital observations were monitored and charted. ECG Recordings were made frequently during the first twenty-four hours. An ECG Technician pushing a mobile cart containing a large ECG Machine with print-out capability was employed during this period. After a few days in hospital - and provided the patient's condition was stable, the patient would be discharged with a letter for his/her doctor and a follow-up appointment.

The patients fitted with these early Pacemakers had to have them replaced every two years because of limited battery longevity.

In the early 1970s, however, the pacemakers themselves were lighter in weight and smaller, and - very importantly - were fitted with rechargeable batteries. This new development was a great boon for the patients. Moreover, the rapid technological developments that permitted them to experience such a convenience certainly underlined the point that this was, indeed, a noteworthy era in Medicine.

The above Memoirs are my recollections of Pacemaker Implantation performed in the ACG Theatre, West Wing, Royal Victoria Hospital, Belfast over Half a Century ago.

##### Authors:

John S. Geddes, M.D., F.R.C.P. (Lond), F.A.C.C.  
(Previously Associate Professor and Director of Electrophysiology at the University of Manitoba, Winnipeg, Canada; now retired)

**Email:** geddesjs@gmail.com

#### SINGLE CENTRE OUTCOMES OF ENDOSCOPIC FULL THICKNESS RESECTION (EFTR) OF COLORECTAL LESIONS USING THE FULL THICKNESS RESECTION DEVICE (FTRD)

##### Editor,

We write to you to with the results of our Endoscopic Full



UMJ is an open access publication of the Ulster Medical Society (<http://www.ums.ac.uk>).

The Ulster Medical Society grants to all users on the basis of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence the right to alter or build upon the work non-commercially, as long as the author is credited and the new creation is licensed under identical terms.

Thickness Resections (EFTR) with the Full Thickness Resection Device (FTRD) at the Ulster Hospital. The detection and removal of colorectal polyps is a fundamental part of colonoscopy and reducing the rates of colorectal cancer. A number of endoscopic techniques exist to aid their removal, including snare polypectomy, endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD). These methods are well established; however concerns have been raised at both the piecemeal fashion of removal, typically associated with EMR and the high perforation rate (up to 20%) with ESD.<sup>1,2</sup> Piecemeal excision can lead to a recurrence of greater than 20%.<sup>2</sup> Additionally, non-lifting lesions may not be amenable to EMR or ESD. T1 cancers are often co-incidentally found after endoscopic resection of a non-suspicious polyp. There is controversy over the further management of early T1 cancers with current guidelines

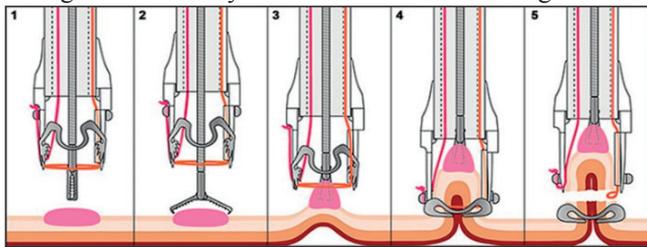


Figure 1

Illustration of the FTRD (www.ovesco.com) (1) and (2) the lesion is marked and grasping forceps are advanced through the working channel of the endoscope to grasp the lesion, (3) the lesion is pulled into the cap to incorporate a double full-thickness layer of colonic wall, (4) once the lateral margins of the lesion are pulled into the cap, the OTSC is deployed, (5) the pseudo polyp created by the OTSC is excised with a preloaded snare whilst the OTSC secures patency of the bowel wall.

recommending endoscopic treatment for those with low-risk histological features.<sup>3</sup> EFTR with the FTRD (Ovesco, Tübingen, Germany) was introduced into clinical practice in 2014. It offers additional therapeutic and diagnostic options, further aiding exact risk stratification and decision making for these early lesions. A large study by Kuellmer et al of 156 patients, specifically focusing on EFTR for adenocarcinomas was recently published.<sup>4</sup> Their R0 resection rate was 71.8% with an adverse event rate of 14.1%. The key finding of this study was the ability to discriminate between high and low-risk tumours and the avoidance of surgery in those deemed low risk.

Between June 2018 and September 2019, 12 EFTR were performed using the FTRD. All procedures were performed jointly by a consultant gastroenterologist and consultant colorectal surgeon who had received formal training with the FTRD. Procedures were performed under sedation and all patients were discharged the same day following a period of observation. Lesions were removed with the FTRD following the standardised method (Fig. 1).<sup>3</sup> Follow-up was determined according to the histological findings, but generally repeat endoscopy was performed at 2 months.

Table 1: Resection site characteristics

Location	Number	Size (range mm)
Caecum	1/12	20
Ascending colon	1/12	40
Transverse colon	1/12	40
Descending/left colon	1/12	25
Rectosigmoid colon	2/12	15-40
Rectum	6/12	6-40

Table 2: Adenocarcinoma characteristics

Site	T stage	SM level	Size (mm)	R status	Adverse Features	Previous attempts at resection
Rectum	1	2	33	0	Venous invasion	No
Rectum	1	2	18	0	Poorly differentiated	Piecemeal polypectomy
Rectum	1	2	25	1	Nil	No
Rectum	1	2	33	0	Nil	No
Rectum*	2	N/A	40	1	Nil	No
Rectum	1	2	15	0	Nil	Polypectomy

\*Hybrid approach- Due to size of lesion, a piecemeal resection of the peripheral polyp was performed firstly followed by EFTR reducing the size from 40mm to 24mm.



## Histology

Adenocarcinoma	6/12
Tubulovillous adenoma with low grade dysplasia	2/12
Tubulovillous adenoma with high grade dysplasia	1/12
Tubular adenoma with low grade dysplasia	2/12
Neuroendocrine tumour	1/12

The mean age was 70 and the median size of the lesion was 26mm (range 6- 40mm). Resection site characteristics and histology post EFTR are detailed in table 1. No patients suffered a post-procedural complication including perforation or bleeding. For the adenocarcinomas, 33% (2/6) had a R1 resection and went onto have subsequent surgery (table 2). One patient had no residual tumour, the other had no residual tumour however there was lymph node involvement. At the time of publication, no benign or malignant polyp recurrence had been identified at follow-up endoscopy.

The findings of both our data and larger studies is that, whilst EFTR looks promising, it needs to be approached with caution and longer follow-up data is required, particularly for pT1 adenocarcinomas. Its role can be developed for those patients not fit for surgical resection as was the case for a number of patients in our study. It is important to remember that surgery remains the gold standard treatment for invasive colorectal cancer.

### Authors:

Ms Rachael McBride, Mr Mohamed Dwebi,  
Dr Patrick Allen, Mr Kevin McCallion  
Ulster Hospital, Dundonald

**Correspondence to:** Ms Rachael McBride

**Email:** rachael.mcbride@belfasttrust.hscni.net

### REFERENCES

1. Arezzo A, Passera R, Marchese N, et al. Systematic review and meta-analysis of endoscopic submucosal dissection vs endoscopic mucosal resection for colorectal lesions. *United European Gastroenterol J* 2016; **4**: 18–29
2. Maguire LH, Shellito PC. Endoscopic piecemeal resection of large colorectal polyps with long-term followup. *Surg Endosc* 2014; **28**: 2641–2648.
3. M. Ferlitsch, A. Moss, C. Hassan, et al. Colorectal polypectomy and endoscopic mucosal resection (EMR): European Society of Gastrointestinal Endoscopy (ESGE) clinical guideline. *Endoscopy*, 2017; **49**: 270-297
4. Aepli P, Criblez D, Baumeler S, Borovicka J, Frei R. Endoscopic full thickness resection (EFTR) of colorectal neoplasms with the Full Thickness Resection Device (FTRD): Clinical experience from two tertiary referral centers in Switzerland. *United European Gastroenterol J*. 2018;**6(3)**:463–470. doi:10.1177/2050640617728001



UMJ is an open access publication of the Ulster Medical Society (<http://www.ums.ac.uk>).

The Ulster Medical Society grants to all users on the basis of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence the right to alter or build upon the work non-commercially, as long as the author is credited and the new creation is licensed under identical terms.