

Infectio[®] ***Surgery***

A Quarterly Magazine

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Current News

“A Case of Huge Neck Swelling; An Unusual Presentation” was published in last issue of ***Infectio Surgery***, by Prof. M. Naseem Baloch & his team. The case was presented in 2nd Congress of Asia-Pacific Society of Thyroid Surgery at Okinawa, Japan in November 2017. After running tests, it was confirmed as Malignant Peripheral Nerve Sheath Tumor (MPSNT).

MPSNT is a rare tumor which affects the soft tissues surrounding the nerves. It is related to neurofibromatosis type 1 (NF1), and affects around 5 million people per year.

Prof. M. Naseem Baloch, who specializes in endocrine surgeries, evaluated the case thoroughly and decided to proceed for surgery. Based on his skill, he excised the tumor with negative (wide) margins. The audience was intrigued by the fact that such case is reported at young age, and appreciated his efforts to preserve the quality of life for the patient. They regarded it as a foundation case for the future surgeons, should they come across such cases in the future.

The editorial board for Infectio Surgery congratulates Prof. M. Naseem Baloch & team for bringing honor to Pakistan through his contribution to the field of endocrine surgery, and wishes him best for the future.

Infectio[®] Surgery

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Welcome Aboard



We feel honored to welcome two new board members to our esteemed INFECTIO Surgery team:

- ▶ **Prof. Mahmood Ayyaz**
- ▶ **Prof. Javed Raza Gardezi**

Prof. Mahmood Ayyaz is working as Principal of SIMS and Professor of surgery. He holds FCPS, FRCS, FICS & MIS. Prof. Ayyaz also holds the responsibility of Councilor & Directors of the National Residency Program at CPSP.

Prof. Javed Raza Gardezi currently he is associated with Services Institute of Medical Sciences (SIMS), Lahore as a Professor of Surgery. He has FCPS & FRCS as well as other important certifications, and over decades of experience in both teaching & practice of surgery.

We truly appreciate to have both Professors in our team. We believe in their skills, talent and knowledge that can be utilized for our magazine's improvement. Through their understanding & experience, we will be able to fulfil our vision of delivering the structured information for the aspiring surgeons and healthcare professionals of Pakistan.



Economic evaluation of antibiotic therapy versus appendicectomy for the treatment of uncomplicated acute appendicitis from the APPAC randomized clinical trial

Summarized by:

Prof. Rahil Rehman

Head of Department, Abbasi Shaheed Hospital



Introduction

Appendicectomy remains one of the most commonly treated surgical emergencies across the world. It affects people from both developed and underdeveloped nations. From a report, it is stated that out of more than 200 million surgical procedures performed every year globally, appendicectomy is one of the most common, burdening both developed and third-world countries. Appendicectomy has been the typical treatment for acute appendicitis for about a century. The idea of treating appendicitis with antibiotics is not unusual. There is an increasing level of evidence from randomized trials, suggesting that the bulk of patients with uncomplicated acute appendicitis can be treated safely with antibiotics and do not require surgical intervention.

While antibiotics seem safe and effective in handling uncomplicated acute appendicitis, it is also imperative to take cost into concern. Acute appendicitis chiefly affects the individuals of employed concerns, and it has been proposed that indirect expenses can inflict a significant economic liability on society via prolonged sick leave and reduced work efficiency. In addition to these secondary costs, direct charges, such as the value of all goods and facilities utilized in connection to provided health services (imaging, laboratory tests, medicinal and operative costs, and hospitalization), need to be added up. Patients managed without operation have had a lengthier hospital stay but, it is becoming clear that treatment with antibiotics single-handedly is a safe preliminary treatment approach for uncomplicated acute appendicitis, and also it might be possible to decrease the period of stay by using an alternate antibiotic regimen.

Methods

The study was conducted in Finland, under the title of APPAC (APPendicitis ACuta) trial. This is a multicenter, open-label, non-inferiority RCT performed in six hospitals: three university hospitals (Turku, Oulu, Tampere) and three district hospitals (Mikkeli, Seinäjoki, Jyväskylä).

Participants

Patients aged 18–60 years admitted to the emergency department with a clinical suspicion of uncomplicated acute appendicitis confirmed by CT were enrolled in the study.

Patients with complicated appendicitis, defined as the presence of an appendicolith, perforation, abscess or suspicion of a tumour on CT, were excluded.

Other exclusion criteria were: aged less than 18 or over 60 years, contraindication to CT (such as pregnant or lactating, allergy to contrast media or iodine, renal insufficiency with serum creatinine level exceeding 150 $\mu\text{mol/l}$, actively taking metformin), peritonitis, unable to cooperate and provide informed consent, and the presence of serious systemic illness. All patients gave written informed consent to participate in the study.

Randomization

Patients were randomized by a closed envelope method either to undergo appendicectomy or to receive antibiotic therapy with intravenous ertapenem. The randomization was performed with a 1 : 1 equal allocation ratio. There were 610 opaque, sealed and sequentially numbered randomization envelopes.

Surgical treatment

The predetermined surgical procedure in the trial protocol was open appendicectomy executed using a McBurney right lower quadrant muscle-splitting incision technique. Laparoscopic appendicectomy was performed in 15 patients (5.5 percent). Prophylactic antibiotics (1.5g cefuroxime and 500mg metronidazole) were administered approximately 30 min before incision.

Antibiotic therapy

Intravenous ertapenem sodium (1g/day) was administered for 3 days to patients in the antibiotic



therapy group followed by 7 days of oral levofloxacin (500 mg once daily) and metronidazole (500 mg 3 times per day).

Outcomes

The current study concentrates on all secondary results with an effect on the overall public costs in the framework of assessing the economic effects of both randomized treatment decisions with a 1-year follow-up.

The chief outcome in the antibiotic group was relief from acute appendicitis, and subsequent discharge from hospital without the requirement for surgical intervention, and absence of intermittent appendicitis during 1 year. In the operative group, treatment success was described as effective appendectomy.

Secondary observations included total post-intervention difficulties, late relapse (after 1 year) of acute appendicitis following conservative management, interval of hospital visit and length of sick leave, post-intervention pain scores and use of pain drugs.

Economic evaluation

All cost estimations were centered on the cost level of the last quarter of 2012. All charges were noted, whether created by the preliminary visit and subsequent management or probable recurrent appendicitis during the 1-year follow-up period, and an intention-to-treat analysis was performed.

The costs of productivity losses were based on the average monthly gross salaries for working Finnish adults: €2891 for women and €3520 for men. The productivity loss per day was estimated by dividing the monthly gross salary by 21, the average number of working days per month. Overall costs may be influenced strongly by some components.

Results

Some 530 patients, between the ages of 18 and 60

years, were randomized into two observation groups from November 2009 until June 2012: 257 to the antibiotic therapy group and 273 the appendectomy group (Fig. 1). Results for the primary endpoint showed that most patients randomized to antibiotic treatment did not require appendectomy during the year after operation.

In the operative group, the overall societal costs (€5989.2, 95% c.i. 5787.3 to 6191.1) were 1.6 times higher (€2244.8, 1940.5 to 2549.1) than those in the antibiotic group (€3744.4, 3514.6 to 3974.2). The time spent in hospital was greater in the antibiotic group than the operative group, patients in the operative group were prescribed more sick leave than those in the antibiotic group in both groups, productivity losses represented a slightly higher proportion of overall societal costs than all treatment costs together, with diagnostics and medicines having a minor role (Table 1).

Sensitivity analyses revealed that decreasing the number of prescribed sick leave days would have a significant impact on the overall costs to society (Table 2). Assuming higher salary costs would increase the overall societal costs in almost equal proportions in the two groups.

The total societal cost was still significantly lower in the antibiotic therapy group, even when the sick leave days were decreased and the salary costs increased by as much as 50%.

Discussion

The overall shared costs were 1.6 times greater in the operative group than in the antibiotic group when all expenses were taken into account, whether created by the initial visit and subsequent treatment or possible recurrent appendicitis during the 1-year follow-up. This difference in costs to both the service providers and people overall strongly supports further evaluation of antibiotic therapy as the initial management for uncomplicated acute appendicitis.

These results verify another report linking the cost-effectiveness of non-operative management



versus laparoscopic appendicectomy for uncomplicated acute appendicitis. Wu and colleagues utilized a decision tree with determined model variables, using only the direct medical charges into reason from a general perspective, keeping all costs and benefits irrespective of who they affect or are experienced by. Despite gauging only the direct expenses of both management modalities, they determined that non-operative interventions resulted in significant cost savings and created 0.03 more quality-adjusted life-years. Probabilistic sensitivity study established non-operative management without interval appendicectomy to be the favored strategy in 95.6% of the patients.

However, the current study disclosed that the indirect expenses associated with the amount of prescribed sick leave was a central cost component. From a social perspective, sick leave has been predicted to be the single most expensive constituent of costs in overall practice, which is now validated in the treatment of appendicitis.

A shorter hospital visit would also lessen total hospital expense. In the APPAC trial, the average length of hospital stay was lengthier for the antibiotic group, but this was pre-defined in the study protocol to guarantee patient safety in the trial. The NOTA (Non-Operative Treatment for Acute Appendicitis) study stated the mean extent of hospital visit of patients managed without surgery to be 0.4 days, associated with 3.0 days for patients in the antibiotic group of APPAC. Antibiotic treatment for uncomplicated acute appendicitis has been reported to be safe; none of the patients treated originally with antibiotics and later with appendicectomy had major complications suggesting that it would be possible to reduce the length of hospital stay related to antibiotic treatment.

The laparoscopic method has been shown to reduce hospital stay and sick leave. A limitation of this study is that most of the appendicectomies (94.5%) were performed by an open approach, as stated in the study protocol. Because laparoscopic appendicectomy equipment and expertise are not available throughout the world. Based on the benefits of the minimally invasive approach, laparoscopic appendicectomy is now considered the standard surgical treatment for acute appendicitis. A factor to be considered regarding laparoscopic appendicectomy is that its surgical cost is significantly higher than that for open appendicectomy, based on the costs of disposable instruments, ports and sutures used for laparoscopic appendicectomy.

Many factors contributing to the total costs were left unexplored in this study, such as possible carers' costs and other intangible costs related to the treatment of uncomplicated acute appendicitis. The lack of these additional data may be seen as another limitation of this study.

The drawback of antibiotic treatment for uncomplicated acute appendicitis regarding both the optimal treatment and the treatment costs is the possible bias related to spontaneously resolving appendicitis. A double-blind, placebo-controlled RCT is needed to differentiate these effects.

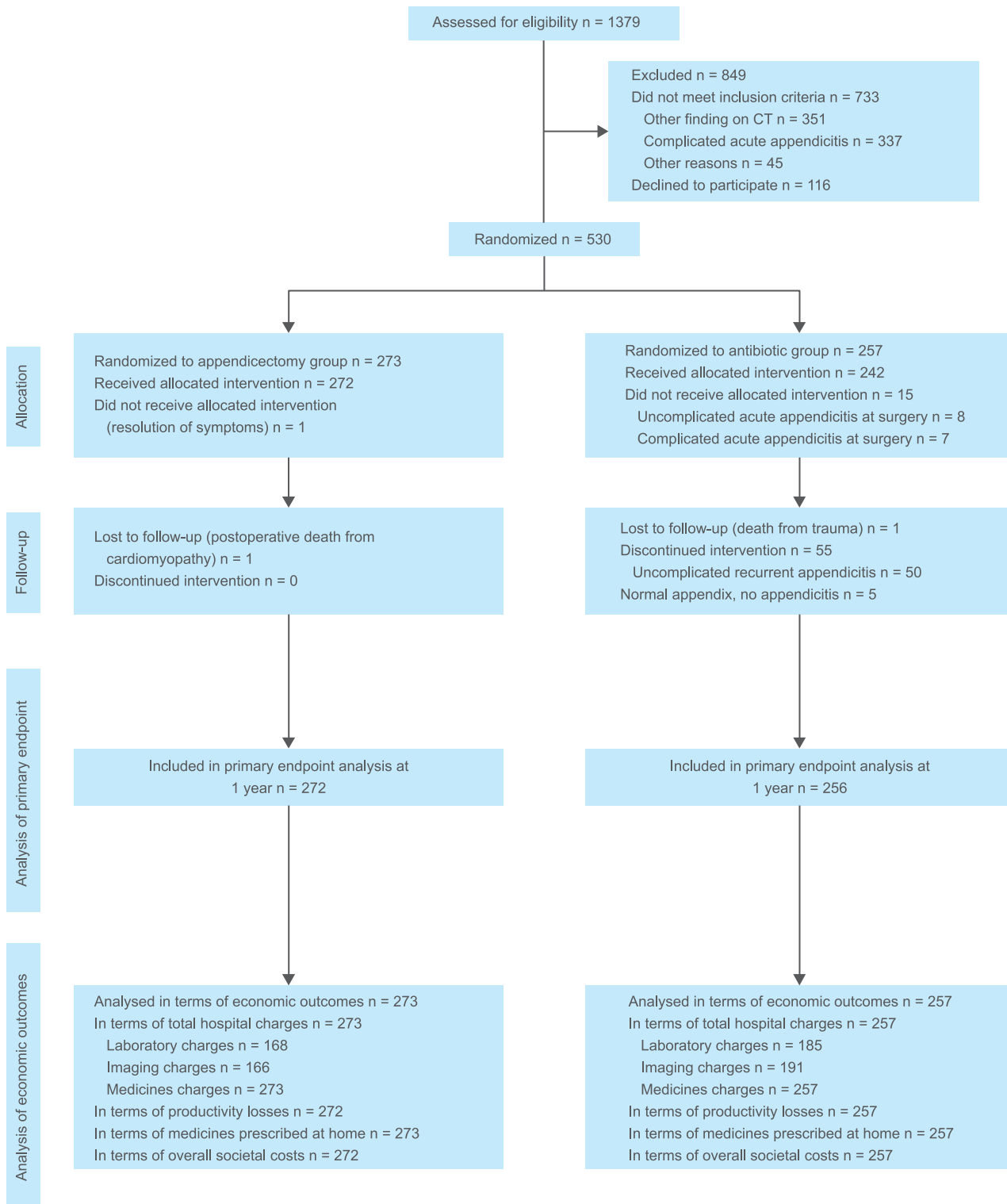


Fig. 1 CONSORT diagram for the trial



Table 1 Breakdown of costs for patients with uncomplicated acute appendicitis in the operative and antibiotic therapy treatment groups

	Appendicectomy group (€)	Antibiotic therapy group (€)	P*
Total hospital charges	2882.0(725.6) (2790.8, 2963.3)	1806.8(1368.7) (1638.6, 1974.9)	< 0.001
Laboratory	78.2(52.8) (70.2, 86.4)	57.2(46.0) (50.4, 63.9)	< 0.001
Imaging	110.5(129.9) (90.5, 130.3)	136.3(135.0) (113.5, 153.8)	0.068
Medicines	8.9(9.2) (7.8, 10.0)	44.5(4.6) (43.9, 45.0)	< 0.001
Productivity losses	3112.1(1379.1) (2947.4, 3276.7)	1937.6(1131.2) (1798.6, 2076.5)	< 0.001
Medicines prescribed at home	10.5(4.8) (10.0, 11.1)	29.0(8.0) (28.0, 30.0)	< 0.001
Overall societal costs	5989.2(1691.1) (5787.3, 6191.1)	3744.4(1870.3) (3514.6, 3974.2)	< 0.001

Values are mean(s.d.) (95 per cent c.i.). *Student's t test

Table 2 Sensitivity analyses of costs for patients with uncomplicated acute appendicitis in the operative and antibiotic therapy groups

	Appendicectomy group (€)*	Antibiotic group (€)*	Cost advantage of antibiotic therapy†
Overall societal cost	5989.2(1691.1) (5787.3, 6191.1)	3744.4(1870.3) (3514.6, 3974.2)	2244.8 (1940.5, 2549.1)
Sick leave days			
30% fewer	5189.3(1352.3) (5027.8, 5350.7)	3313.1(1669.3) (3108.0, 3518.1)	1876.2 (1617.4, 2135.0)
50% fewer	4656.0(1147.6) (4519.0, 4793.0)	3025.6 (1558.8) (2834.0, 3217.0)	1630.4 (1397.6, 1863.8)
Salary costs			
30% higher	7786.0(2198.7) (7523.5, 8048.4)	4867.7(2431.7) (4569.0, 5166.4)	2918.3 (2522.7, 3313.8)
50% higher	8983.8(2537.0) (8680.9, 9286.6)	5616.6(2805.5) (5271.9, 5961.2)	3367.2 (2910.8, 3823.6)

Values are mean(s.d.) (95 per cent c.i.). *Student's t test

Adopted from original article by:

Sippola, S., Grönroos, J., Tuominen, R., Paajanen, H., Rautio, T., Nordström, P., ... & Salminen, P. (2017). Economic evaluation of antibiotic therapy versus appendicectomy for the treatment of uncomplicated acute appendicitis from the APPAC randomized clinical trial. *British Journal of Surgery*, 104(10), 1355-1361.

Quality of life after mastectomy with or without immediate breast reconstruction

Summarized by:

Prof. Salim Soomro

Head of Department, Jinnah Postgraduate Medical Center



Introduction

Breast cancer is one of the reported cancers among world population. There are novel treatments that are introduced across the globe, but not everyone has access to it. As a result of better survival outcomes, breast cancer is gradually perceived as a chronic disease, and thus survivors' health-related quality of life (QoL) has come under spotlight. Besides breast-conserving surgery (BCS), immediate breast reconstruction (IBR) after a mastectomy enables women to preserve their body image and QoL without a negative impact on survival. This treatment strategy is also increasingly being used after neo-adjuvant chemotherapy. However, no substantial evidence has demonstrated the advantage of IBR in terms of QoL, body image and/or sexuality. Long-term changes in QoL are also challenging to study because of potential response shifts that patients make when they have to deal with irreversible disabilities, and in this case 'health changes lead to shifts in internal standards (recalibration), values (reprioritization) and conceptualization (reconceptualization) of key health related QoL domains'.

Studies trying to establish evidence of adequate restoration of QoL after a long interval (more than 1 year) usually miss their goal because of such substantial changes.

Finally, most researches on breast cancer mix together patients with diverse profiles (such as age), who have entirely different points of view about their QoL, and so the effort to compare groups fail because of the wide disparity in age-related priorities. It is necessary to group patients according to similar clinical and demographic profiles for analysis, although without randomization. At present, use of a propensity score is the best way of addressing such issues. This approach requires large populations, and only

national or international surveys can match the requirements.

Methods

The study was titled as STIC-RMI, and 22 French academic hospitals have participated during a 2-year interval, with patients recruited between July 2007 and August 2009. Follow-up after inclusion lasted 1 year, and a questionnaire was completed by the participants before undergoing surgery and at intervals of 6 months and 1 year after surgery. Questions included topics such as motivation, satisfaction and cosmetic outcomes of surgery. Another questionnaire regarding the Quality of Life (QoL) was also collected, which is known as QLQ-C30 (v. 3.0). Another one, QLQ-BR23 focuses on the body image, sexuality and future perspective. All scores were rescaled from 0 to 100, with 100 as the best possible value.

Results

Among the 595 enrolled patients, 407 (68.4 percent) underwent surgery for an invasive breast cancer and 188 (31.6 percent) for an in situ cancer. Six Paget's and phylloides tumors were classified with the invasive tumors. A simple mastectomy was undertaken in 191 patients (32.1 percent) and 404 patients (67.9 percent) underwent mastectomy plus IBR.

QoL data at inclusion and at 1-year follow-up were available for 423 patients (71.1 percent), 122 of 191 (63.9 percent) who had simple mastectomy and 301 of 404 (74.5 percent) who underwent mastectomy plus IBR. In the IBR group, reconstruction techniques consisted of implants placed under the pectoral muscle (140 patients, 46.5 percent), latissimus dorsi flaps combined with an implant (73,24.3 percent), autologous latissimus dorsi flaps (68,22.6 percent) and transverse rectus abdominis musculo-cutaneous flaps (20,6.6 percent).

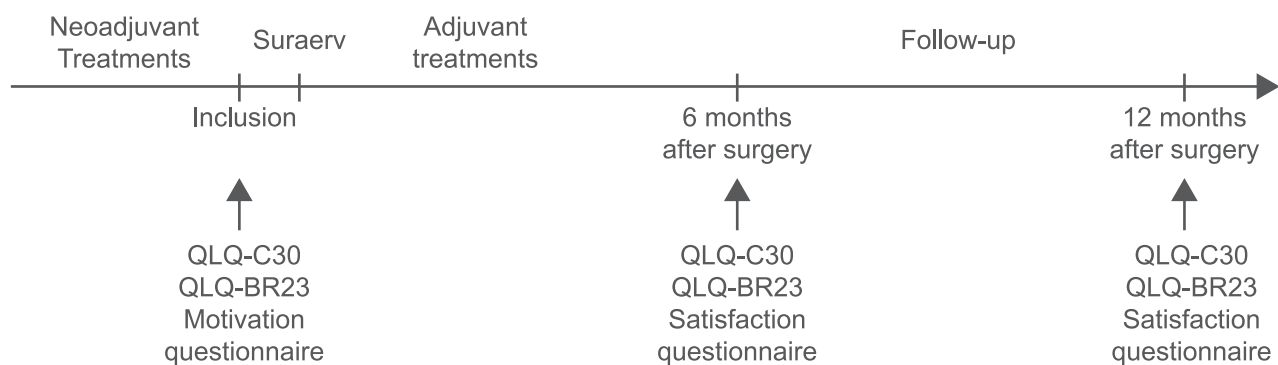


Fig. 1 Study timeline showing treatments and completion of European Organisation for Research and Treatment of Cancer quality-of-life QLQ-C23 and QLQ-BR23 instruments, and questionnaires assessing motivation for possible immediate breast reconstruction and satisfaction with the cosmetic outcome.

Discussion

STIC-RMI is a large prospective multi-institutional study evaluating QoL after mastectomy followed by an IBR or mastectomy alone, with 22 skilled teams participating. At inclusion, data on QoL were available for 90.0 percent of patients, and for 71.1 percent at 1 year, which is high compared with values reported earlier.

Overall, patients' QoL after breast cancer treatment required a year to return to the preoperative level. QoL after the operation showed an overall decrease at 6 months.

The main conclusion of the present study confirms that mastectomy followed by IBR does preserve QoL, but only if reconstruction is proposed to suitable patients, and if the cosmetic outcome is satisfactory.

'Appropriate' patients for IBR were younger, with a lower BMI, in work, and with less invasive and/or advanced disease. These patients are also more concerned about their femininity; breast reconstruction appears to be a form of compensation for the disease, and was perceived as worth the pain associated with the procedure.

With regard to satisfaction with the cosmetic outcome after IBR, this appeared to matter less in

the group in the lowest propensity score quartile, but had a strong influence among patients in the higher quartiles. The influence of satisfaction on QoL is as important as all other components of the propensity score taken together, underlining the need for skilled and trained surgeons to ensure the quality of the reconstruction, and the availability of corrective interventions so that a good outcome is achieved. An unsatisfactory IBR may have a more negative impact on QoL than a simple mastectomy if a reconstruction is proposed to a patient who does not ask for one. New surgical techniques (such as skin sparing and lipomodelling) may, in the future, limit the risk of a poor outcome.

The QLQ-BR23 was a better discriminator than QLQ-C30. This questionnaire targets specific QoL domains, such as body image, sexuality and future perspectives. For the women appropriate for IBR, a reconstruction seemed very important in maintaining marital and social relationships. Mastectomy appears to induce a response shift that reflects a change in perspectives, for instance less interest, activity and satisfaction with sexuality, and consequently a reordering of other priorities to bridge the gap. QLQ-BR23 targets intimacy specifically, with scores reflecting changes in sexuality. These specific alterations are often not detected by the general QLQ-C30 QoL questionnaire, as they are masked by the effect of reordering priorities. Thus, stable global scores



do not mean that QoL returns to previous levels. It may be that a number of studies have failed to show QoL advantages after breast reconstruction because of this weakness, although their sample size was large enough.

The follow-up was set to 1 year after surgery. This interval was considered sufficient because reconstruction failures usually happen within the first few months after surgery, the final cosmetic outcome of IBR is usually known by this time, and the impact of adjuvant treatments (mainly chemotherapy) on QoL is no longer predominant. However, a follow-up of 2 or 3 years could have been more informative, although it is unlikely that later outcomes would contradict the present findings.

A proportion of the included patients (28.9 percent) did not answer the 1-year questionnaires. Their mean QLQ-C30 QoL score at inclusion was lower than that of responders, and they were more likely

to smoke and/or have diabetes. Because both smoking and diabetes constitute risk factors for surgical morbidity, these patients more often underwent simple mastectomy. The QoL of these non-responders might have shown a different pattern of change after surgery, and the present results may not be generalizable.

The motivation questionnaire used here was only partially validated and might have missed some important issues. At the time of the survey, no validated questionnaire existed to investigate patient motivation, but the EORTC QLQ-BRR26, designed specifically for breast reconstruction, is now in the later stages of development, and will complement the QLQ-C30 and QLQ-BR23 questionnaires. Although this questionnaire targets specific aspects of QoL, it will probably shed some light on patient motivation. It comprises three sub-dimensions: disease treatment/surgery-related symptoms, sexuality and cosmetic outcome.

Source Article: Dauplat, J., Kwiatkowski, F., Rouanet, P., Delay, E., Clough, K., Verhaeghe, J. L., ... & Pomel, C. (2017). Quality of life after mastectomy with or without immediate breast reconstruction. *British Journal of Surgery*.

Pretibial myoedema associated with Grave's disease. Dermopathy affects fewer than 5 percent of patients with Grave's disease. Typical lesions are diffuse, non-pitting oedema with orange skin appearance involving the pretibial area (Pretibial myxedema). However, myxedema is not always confined to this area, and can involve the hands, arms, shoulders, ears, ankles, face and sites of scars

A Case Study: Chordoma

Summarized by:

Dr. Naeem Khan

Assistant Professor of Surgery
JPMC, Karachi



History

A 67 years old male with known history of IHD, was presented with the complaints of fecal and urinary incontinence for the past 1year. His vitals are as follows;

Pulse	86/min
B.P	110/70 mmHg
R.R	18/min
Temp	AF

General Physical Examination

The patient was well-oriented to time, place and person. No signs of anemia, jaundice, cyanosis, clubbing & lymphadenopathy.

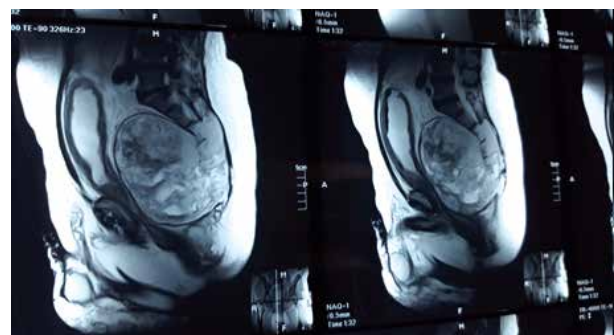
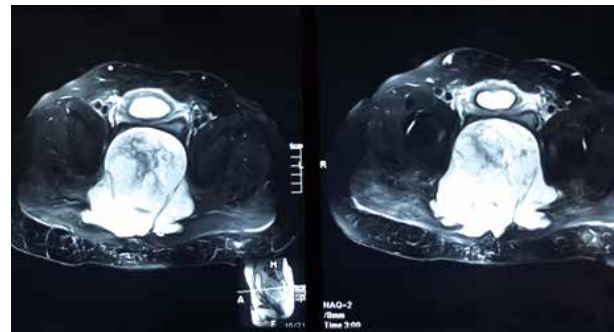
Upon systemic examination, the chest was clear; abdomen was soft, with a non-tender, ill defined, mobile mass arising from the pelvis. From digital rectal exam, there was a cystic mass occupying the posterior part of the rectum, while mucosa over the swelling was mobile and smooth.

Lab work

Hemoglobin	10.8 gm/dL
TLC	11
PLT	354
Urea	28 mg/dL
Creatinine	1.6 mg/dL
Sodium	137 mmol/L
Potassium	3.5 mmol/L
Chloride	100 mmol/L
RBS	89 mg/dL
LFTs	Normal
PT & INR	Normal

Radiographic findings

- MRI PELVIS: There is a large mass of abdominal signal intensity that is seen within the pelvis in the midline. This mass is causing erosive destruction of the coccyx and the sacrum and shows extension into the sacral spinal canal as well.
- Anteriorly this mass is expanding into the pelvis causing an extrinsic compression over the anal canal and the rectum which is displaced anteriorly.



- This mass measures approximately 13.2x8.9 cm in its maximum diameter and extends for a distance of 15.5 cm.
- This mass is diffusely infiltrate in the pre-sacral space and also shows minimal extension beyond the sacrum and coccyx slightly to the right of the midline infiltrating the medial most margin of the gluteus medius and maximus muscles on the right side.
- Possibility of this being a chordoma cannot be entirely excluded.



Trucut Biopsy

Immuno-histochemical stains performed show the following reactivity pattern in atypical cells;

Cytokeratin AE1/AE3	Positive
Vimentin	Positive
Cytokeratin 7	Negative
Cytokeratin 20	Negative
Calretinin	Negative
HMB-45	Negative
CD10	Negative
Hep-Parl	Negative
ASMA	Negative
CD117	Negative
S100	Positive
EMA	Patchy Positive

Diagnosis

A neoplastic lesion, due to its morphological and immuno-histochemical features, favor chordoma.

Surgery

- Exploratory Laparotomy was done in which abdomino-perineal resection of rectum, permanent end colostomy, excision of the solid mass 15x15 cm and suprapubic cystostomy performed.
- Operative Findings: distended bladder with 15x15cm solid mass in the pelvis, pushing the rectum anteriorly. There was a mass arising from the coccyx and S3, S4 and S5 sacral segments. Rest of the viscera were normal.

Post-Operative Condition

The vitals of the patient were stable, with following numbers;

Blood pressure	100/70 mmHg
Pulse	97/min
Respiratory rate	12/min
Temperature	Afebrile

The patient was transfused with 4 pints of PCV in 48 hours, and the last Hemoglobin percentage was recorded to be 10.1 g%. After the surgical procedure, the patient was mobile and walked with a helper.

Images





Chordoma Summary

Chordomas are rare tumors that arise from embryonic notochordal remnants along the length of the neuraxis at developmentally active sites. These sites are the ends of the neuraxis and the vertebral bodies. Chordomas constitute less than 1% of CNS tumors and rarely occur in extra-axial locations. Chordomas are thought to arise from ectopic notochord remnants. Chordomas are optimally managed with aggressive surgery, while preserving key structures, and postoperative radiation. Chordomas are associated with significant morbidity because of their growth patterns and surgical constraints in resection.

Although chordomas are usually slow-growing tumors, they are locally aggressive with a tendency to infiltrate into adjacent tissues and organs. Local recurrence results in tissue destruction and generally is the cause of death. Metastases are recognized but are uncommon.

Chordomas are rare neoplasms. As primary intracranial neoplasms, they only constitute 0.2% of all CNS tumors; however, they constitute 2-4% of all primary bone neoplasms. Chordomas generally occur in 3 locations, which are, in descending order of frequency, the sacrum, intracranially at the clivus, and along the spinal axis. Fifty percent of chordomas occur in the sacrum, while spinal axis chordomas are rare. Occasional parasellar and sellar examples have been described, and extra axial sites have been reported in the literature. When considering all locations, the male-to-female ratio is 2:1. However, skull base tumors, as a subgroup, tend to have a more equal sex distribution.

A number of reports indicate that chordomas are seen in all age groups, with the peak incidence varying by site. Intracranial chordomas present in a much younger age group than their spinal counterparts because the relevant anatomy of the clival region produces earlier symptomatology. In one series of chordomas reviewed, the average age at diagnosis of all patients with chordomas was 56 years, with an age range of 27-80 years. When considered by site, the average age for intracranial

chordomas is 48 years; as a subgroup, chordomas of the sphenoccipital area have an average occurrence age of 38 years. The average age for sacrococcygeal chordomas is 56 years. For chordomas occurring along the vertebrae, the average age is 46 years.

In a review of demographic and clinical data of pediatric patients 19 years or younger abstracted from the Surveillance, Epidemiology, and End Result (SEER) database, pediatric primary chordomas presented most often as small tumors less than 4 cm in the cranium. Survival among pediatric patients who underwent surgery was significantly longer than for adults (22.5 vs 14.3 yr; $P < 0.001$), and overall survival was longer (17.2 vs 12.6 yr). Overall mortality was lower in pediatric patients (38.4 vs 49.8%), but cancer-specific mortality was higher (37.2 vs. 28.6%).

Chordoma Treatment

A multicenter phase II clinical trial has confirmed the clinical efficacy of imatinib mesylate in the treatment of chordoma. Treatment with imatinib was successful in stabilizing tumor growth (84%) or shrinking tumor size (16%) in a cohort of patients with progressing, advanced chordoma. Imatinib is a tyrosine kinase inhibitor targeting several enzymes including platelet-derived growth factor receptor- β (PDGFRB), which can be expressed in chordomas.

A combination of bevacizumab (an antivascular agent) and erlotinib (an epidermal growth factor receptor [EGFR] inhibitor) showed promising long-lasting control of chordoma growth.

However, research is ongoing, and surgery remains the standard treatment for chordomas. Adjuvant radiation therapy is used in cases in which incomplete resection is suspected. Traditional chemotherapy has not been shown to be effective.

Source: <https://emedicine.medscape.com/article/250902-overview>



WHAT'S THE SOLUTION?

A range of precautions - **before, during and after surgery** - reduces the risk of infection




BEFORE SURGERY


- 
- Ensure patients bathe or shower
- 
- Do not shave patients
- 
- Only use antibiotics when recommended
- 
- Use chlorhexidine alcohol-based antiseptic solutions to prepare skin
- 
- Surgical scrub technique: hand wash or alcohol-based handrub



DURING SURGERY



Limit the number of people and doors being opened




Ensure all surgical equipment is sterile and maintain asepsis throughout surgery



AFTER SURGERY



Do not continue antibiotics to prevent infection - **this is unnecessary and contributes to the spread of antibiotic resistance**



Check wounds for infection and use standard dressings on primary wounds

Quiz



**Q. This lady has thyroid disease.
What is the cause of the skin
condition on her legs?**

Winners of Lucky Draw

The editorial board of *Infectio® Surgery* is pleased to announce the names of winners for quiz from the 3rd edition. Due to high response and appreciation from readers, the board has decided to increase the number of winners to 15 from the quiz participants of 3rd Edition.

The lucky draw was held in a meeting at Jinnah Postgraduate Medical Centre, Karachi, on 29th November, 2017. Following are the names of Lucky Draw winners drawn at randomly by Prof. Salim Ahmed Soomro and his team.

We congratulate the winners and once again thanks all contestants for their participation in quiz.

1. Dr. Ghulam Rasool, Pak Medical Centre, Peshawar
2. Dr. M.H. Leghari, Rajputana Hospital, Hyderabad
3. Dr. Ishtiaq Ahmed, Khwaja Muhammad Safdar Medical College, Sialkot
4. Dr. Muhammad Taimoor, Fauji Foundation Hospital, Islamabad
5. Prof. M. Sajid Sheikh, Allied Hospital, Faisalabad
6. Dr. Bazigh Ehsan Waris, Ittefaq Hospital Trust, Lahore
7. Dr. Raja Kaikobad, National Hospital Defence, Lahore
8. Dr. Masood Ahmed Qureshi, Peoples University of Medical and Health Sciences, Nawabshah
9. Dr. Aneela Malik, National Medical Centre, Karachi
10. Prof. Shazia Majid Khan, Sheikh Zaid Hospital, Rahim Yar Khan
11. Prof. Akhter A. Tahir, Multan Medical Complex, Multan
12. Dr. Zaheer Qadir Qureshi, Ayub Teaching Hospital, Abbottabad
13. Dr. Zeeba Munzar, Maroof International Hospital, Islamabad
14. Dr. M. Bashir Malik, Bashir Surgical Hospital, Joharabad
15. Dr. Nosheen Sikandar, Civil Hospital, Quetta