Case Report 6
Discitis

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Case Summary:
Discitis is an inflammatory condition of the intervertebral disc or disc space. It is an uncommon condition which occurs mostly in young children or as a post-operative complication, such as following an epidural. It is extremely rare in the elderly as disc size and sponginess decreases with age and consequently the risk of infection decreases. In this case, discitis occurred spontaneously in an elderly patient and was complicated by a psoas abscess. The patient also suffers from acute renal failure, chronic heart failure, left sided pneumonia and shingles (Herpes Zoster) in dermatome S3. A trapped spinal nerve occurring at the intervertebral foramen is a common complication in fact, the subject did suffer from sciatica for the past 30 years.

Demographic Details:
J.M. C, Male, Marsascala
72, D.O.B 31/12/1938

Referred from: Infectious Diseases Unit (IDU)
Location, Date of Examination: Karin Grech Hospital G2 ward ;29/10/2011;

Presenting Complaint:
Severe back pain- 5 days
Fever- 1 day
Confused and Disoriented-1 day

History of Presenting Complaint:
Patient admitted to A&E c/o 5 day history of left sided back pain radiating to left lower limb down to mid-shin. Pain had a gradual onset. Pain is so severe that patient is unable to get out of bed. GP had started him on Coltramyl, Cataflam, Nexium & Codipar on 04/09/11 and had improved slightly. During these 5 days he had slept comfortably at night and felt better lying on his left side. Patient had left lower limb weakness 3 years ago, but never saw GP. He does give a 30 year history of left lower limb sciatica which however never hindered activity.
Also c/o shortness of breath on exertion; however no cough, no sputum, no chills, no rigors though had some frequency of urine that was dark in colour.

Past Medical History: Nil to note. Patient does not suffer from any chronic diseases. ° hypertension,° diabetes, ° hypercholesterolemia, ° jaundice, ° asthma.
Past Surgical History: Nil to note.

Drug History:

Drug	Dosage	Frequency	Indication
Thiocolchicoside (Coltramyl)	4mg		Analgesia
Diclofenac potassium immediate-release tablet (Cataflam)	50mg	TDS	Analgesia
Esomeprazole (Nexium)	20mg	Once daily	Prevention of NSAID-associated ulcers
Co-codamol 8/500 (Codipar)	2 tablets	TDS	Analgesia

Family History:
Two of his siblings, both older (aged 78 and 80) have difficulty walking and are relatively immobile. His father and uncle (both deceased) suffered from difficulty walking.

Social History:
Patient is a farmer. He has stopped smoking 30 years ago(1 packet a day) and is a social drinker. He lives with his wife, aged 72 and his son, aged 43. Both are in good health.

Systemic Enquiry:
General Health: Well overall. Weight loss since admission, diminished appetite.
Cardiovascular: Cold extremities in both lower limbs for the past 2 years.
Respiratory: Shortness of breath on exertion.
G.I.T: Long standing constipation, slight dysphagia, few vomiting episodes.
G.U.S: Catheter was inserted thus patient could not identify any changes in urinary patterns.
CNS: Nil to note
Musculoskeletal: Left lower limb pain. Left upper limb stiffness
Endocrine: Polydypsia (possibly side effect of drugs given).
Others: Bed sores since admission

Current therapy:

Treatment on Discharge	Dosage	Frequency	Period
Ciprofloxacin (500mg) Ciproxin	Tab	BD	Indefinite
Rifampicin	300mg	BD	Indefinite
Minihep	5000 units	TDS	Indefinite
Omeprazole (Losec MUPS)	20mg; Film-coated gastro resistant tablets	BD	Indefinite
Maxalon	10mg	TDS (PRN)	Indefinite
Slow K	2 tabs	TDS (PRN)	Indefinite
Protifan	5 scoops	TDS	Indefinite

Discussion of the results of a general and specific physical examinations
On A&E admission, the patient was found to have a low systolic blood pressure (104) with normal diastolic pressure (81), tachycardia of 113 beats per minute with an afebrile temperature. He had a low oxygen saturation (89%) and hence was given oxygen. On examination, heart sounds were normal although bilateral inspiratory crackles were heard at the lower 1/3 of the thorax especially on the left. Tenderness was observed in the left iliac fossa but was not accompanied by either rebound or guarding. The rectum was full of hard stools but no melaena was reported. Bilateral pitting oedema was present in the left lower limb up to the mid shin. Lower limb showed 4/5 power on hip flexion and knee extension. Absent knee reflex; reduced plantar reflex.

Reflexes	R	L
Knee Jerk	Normal	Absent
Ankle Jerk	Normal	Normal
Plantars	+	Diminished
Sensation	Normal	Normal

Power	R	L
Hip Reflex	5/5	4/5
Knee Extension	5/5	4/5
Knee Flexion	5/5	5/5
Ankle Flexion/Extension	5/5	5/5

Differential Diagnosis

- Osteomyelitis
- Spinal tumours
- Rheumatoid Spondylitis

Diagnostic Procedures:
a)Lab investigations:

22/10/11	Albumin (serum)	23.9 g/L
22/10/11	Alkaline phosphatase (serum)	81 U/L
08/09/11	Alkaline phosphatase (serum)	85 U/L
22/10/11	ALT (serum)	6 U/L
08/09/11	ALT (Serum)	56 U/L
08/09/11	Amylase (Serum/Plasma)	36 U/L
09/09/11	ANCA testing (serum)	Negative Titre (<1/10)
09/09/11	Anti-Nuclear Antibody (serum)	Negative Titre (<1/80)
08/09/11	APTT (sec)	29.9 sec
08/09/11	APTT Ratio	1.15 Ratio
22/10/11	Basophils Abs	0.03 x 109 /L
08/09/11	Basophils Abs	0.02 x 109 /L
22/10/11	Bilirubin (serum)	9.40 umol/L
08/09/11	Bilirubin (serum)	30.60 umol/L
10/09/11	Blood culture for MCS	Blood Culture Aerobic/standard: No Bacteria Cultivated
10/09/11	Blood culture for MCS	Blood Culture Anaerobic/Standard: No Bacteria Cultivated
08/09/11	Blood culture for MCS	Blood Culture Aerobic/Standard: No Baccteria Cultivated
08/09/11	Blood culture for MCS	Blood Culture Anaerobic/Standard: No Bacteria Cultivated
08/09/11	Calcium (serium)	2.25 mmol/L
23/10/11	Chloride (serum)	108.8 mmol/L
22/10/11	Chloride (serum)	106.4 mmol/L
08/09/11	Chloride (serum)	101.3 mmol/L
22/10/11	C-Reactive Protein (serum)	75 mg/L
08/09/11	C-Reactive Protein (serum)	413 mg/L
23/10/11	Creatinine (Serum)	100 umol/L
22/10/11	Creatinine (Serum)	100 umol/L
08/09/11	Creatinine (Serum)	337 umol/L
22/10/11	Eosinophils Abs	0.50 x 109 /L
08/09/11	Eosinophils Abs	0.01 x 109 /L
22/10/11	Erythrocyte Sedimentation Rate (ESR)	49mm 1st Hour
08/09/11	Erythrocyte Sedimentation Rate (ESR)	91 mm 1st Hour
23/10/11	Estimated GFR	68 mls/min / 1.73 m2
22/10/11	Estimated GFR	68 mls/min / 1.73 m2
08/09/11	Estimated GFR	17 mls/min / 1.73 m2
22/10/11	Gamma Glutamyl Transferase (serum)	29 U/I
08/09/11	Gamma Glutamyl Transferase (serum)	63 U/I
08/09/11	Glucose – Random	5.63 mmol/L
22/10/11	Haematocrit	29.8%
08/09/11	Haematocrit	39.0%
22/10/11	Haemoglobin	10.2g/dL
08/09/11	Haemoglobin	13.8g/dL
08/09/11	INR	0.98 ratio
22/10/11	Lymphocytes Abs	1.46 x 109 ./L
08/09/11	Lymphocytes Abs	0.52 x 109 /L
14/10/11	MC & S	No bacteria cultivated
08/09/11	MC & S	No bacteria cultivated
09/09/11	MC & S	No bacteria cultivated
22/10/11	Mean Cell Hb	28.9 pg
08/09/11	Mean Cell Hb	30.7 pg
22/10/11	Mean Cell Hb conc	34.2 g/ dL
08/09/11	Mean Cell Hb conc	35.4 g / dL
22/10/11	Mean Cell Volume	84.4 fL
08/09/11	Mean Cell Volume	86.7 fL
22/10/11	Mean Platelet Volume	9.9 fL
08/09/11	Mean Platelet Volume	12.2 fL
14/10/11	Microsopy	Gram Stain – Abundant Red Blood Cells and Polymorphs present Moderate Gram positive cocci in pairs and short chains seen
08/09/11	Microscopy bacteria	+/HPF
08/09/11	Microscopy Ca Oxalate	Absent/LPF
08/09/11	Microscopy Cellular Casts	Absent/LPF
08/09/11	Microscopy erythrocytes	Absent/HPF

08/09/11	Microscopy granular casts	Absent/LPF
08/09/11	Microscopy hyaline casts	+/LPF
08/09/11	Microscopy others	Abs
08/09/11	Microscopy phosphates	Abs/LFP
08/09/11	Microscopy renal cells	Abs/LFP
08/09/11	Microscopy squamous cells	Abs/LFP
08/09/11	Microscopy transitional cells	Abs/LFP
08/09/11	Microscopy triple phosphates	Abs/LFP
08/09/11	Microscopy urates	Abs/LFP
08/09/11	Microscopy uric acid	Abs/LFP
08/09/11	Microscopy white blood cells	0.5/HFP
08/09/11	Microscopy yeasts/fungi	Abs/HFP
22/10/11	Monocytes Abs	0.47 x 10 9 /L
08/09/11	Monocytes Abs	0.6 x 10 9 / L
22/10/11	Neutrophils	3.74 x 10 9 / L
08/09/11	Neutrophils	10.2 x 10 9 / L
08/09/11	Osmolality	310 mOsm/kg
08/09/11	Phosphate	0.98 mmol/L
22/10/11	Platelets	288 x 10 9 / L
08/09/11	Platelets	125 x 10 9 / L
23/10/11	K+(serum)	3.46 mmol/L
22/10/11	K+ (serum)	2.99 mmol/L
08/09/11	K+ (serum)	5.09 mmol/L
08/09/11	Prothrombin time	10.60 s
22/10/11	Red Blood Cell Count	3.5 x 10 12 / L
08/09/11	Red Blood Cell Count	4.5 x 10 12 / L
22/10/11	Red Cell distribution width	14.6%
08/09/11	Red Blood Cell Distribution width	14.6%
22/10/11	Reticulocytes Abs	14.80 x 10 9 / L
08/09/11	Reticulocytes Abs	14.40 x 10 9 / L
09/09/11	Rheumatoid factor IgM	<15U/ml
23/10/11	Na+ (Serum)	140.0mmol/L
22/10/11	Na+ (Serum)	137.0 mmol/L
08/09/11	Na + (Serum)	134.0 mmol/L
09/09/11	Total extractable nuclear antibody (serum)	0.2 index value
23/10/11	Urea (serum)	1.70 mmol/L
22/10/11	Urea (serum)	2.30 mmol/L
08/09/11	Urea (serum)	25.8 mmol/L
08/09/11	Urinalysis bilirubin	1.0 mg/dL
08/09/11	Urinalysis erythrocytes	50uL
08/09/11	Urinalysis glucose	Normal mg/dl
08/09/11	Urinalysis ketones	-ve mg/dl
08/09/11	Urinalysis nitrates	-ve
08/09/11	Urinalysis pH	5.0
08/09/11	Urinalysis proteins	>5mg/dl
08/09/11	Urinalysis specific gravity	1.020
08/09/11	Urinalysis urobilinogen	4.0mg/dl
08/09/11	Urinalysis wbc	25 uL
22/10/11	Wbc	6.2 x 10 9 / L
08/09/11	Wbc	11.4 x 10 9 / L

20/10/11 MRSA screen
Staphylococcus Aureus d(MRSA) cultivated
Bacitracin- sensitive
Framycetin- sensitive
Neomycin- sensitive
Oxacillin- resistant
Mupirocin- sensitive
For Staphylococci, Levofloxacine sensitivity result is equivalent to Ciprofloxacin. Patient was screened for Rickettsia, Leptospirosis and was negative for both.

b)Instrumental examinations:

Lumbar spine and SI joint X-ray.
08/09/11 Report: There is narrowing of the L3/L4 intervertebral interval. Mild degenerative changes seen throughout the lumbar spine. There is normal alignment of the lumbar vertebrae with abnormal lumbar lordosis. The vertebral body height are preserved. The transverse and spinous processes, the vertebral endplates and neural arches are intact.

Several MRI spine images were taken and it was found that L3-L4 discitis has accompanying:
1. Epidural collection causing significant impingement of the thecal sac and spinal canal stenosis
2. Large Left sided psoas abscess
3. Much smaller Right sided psoas abscess.

Chest X-Ray
08/09/11 Report: AP sitting view. The left hemidiaphragm is indistinct secondary to plate-like atelectatic changes, otherwise lungs are clear. Cardiothoracic ratio cannot be accurately assessed due to projection. There are no signs of pneumothorax or pleural effusion seen. Consolidation in left base.

US Abdo
08/09/11 Report: Clinical details – Acute renal failure. Findings – liver is normal in size and echotexture. No focal lesions are seen within it. No intrahepatic or extrahepatic bile duct dilatation is seen. The Gall Bladder is midly distended, no stones or signs of inflammation are seen. Both kidneys are normal in size, shape and parenchymal thickness. No stones or hydronephrosis are seen. Right kidney measures 9.6 cm; left Kidney measures 9cm (interpolar dimensions). Head of pancreas is homogeneous – no focal enlargement or cystic changes are seen. The pancreatic body and tail are obscured by overlying gas. Spleen is unremarkable. Urinary bladder empty and could not be assessed (catheterised). Aorta – normal calibre. No free fluid is seen in abdo and pelvis.

MR Whole Spine.
14/09/11 Report: Spinal alignment is satisfactory and there is no cord compression evident. L3-4 disc space narrowed and shows high signal intensity and mild posterior protrusion consistent with acute discitis with mild thecal compression. No other significant abnormality.

MR Spine Lumbar/ Sacral.
27/09/11 Report: Bone Marrow signal intensity is abnormal – with low signal intensity seen on both T1 and T2 weighted sequences.
L3/L4 disc is of diminished height with high T2 signal intensity consistent with known history of discitis and is unchanged since previous imaging. An epidural collection of high intensity on T2 and intermediate signal intensity on T1 is seen posterior to L3/L4 disc, extending superiorly to the level of the upper endplate of L3 and inferior to the level of the lower. This is slightly more prominent on the current study than on the one done 2 weeks ago, and is significantly impinging the thecal sac, causing a significant spinal canal stenosis.
The epidural collection is extending through the left L3/L4 neural foramen into the left Iliopsoas with a resultant large abscess (predominantly in left Iliacus). A smaller 1.6 cm abscess is also seen just lateral to the right L3/L4 neural foramen, within the Psoas muscle.
Abnormal Bone Marrow signal Intensity. Query Anaemia?
Other Bone Marrow infiltrative conditions may also be considered.

Therapy
a)Drugs
On 08/09/11, patient was started on Augmentin IV & Klacid PO and it was advised to keep off NSAIDs. The patient had few febrile episodes and was started on Doxycycline; however blood cultures were negative for any growth. It was later decided to start Rifampicin and Ciprofloxacin. Patient has been on ciprofloxacin since 10/9 and rifampicin since 16/9.
Patient was recently found to be MRSA postive in nasal swab cultures and is receiving the required treatment for decontamination such as Bactroban nasal ointment and Chlorehexidine bodywash.

b) Surgical
CT Cyst drainage.
14/10/11 Report: A 12-French locking pigtail catheter was inserted over the wire under CT guidance and under local anesthesia. Around 150 ml of pus was aspirated. Drain was left in situ. Samples were sent for C&S and grew nothing on cultures, other than a few Gram positive cocci on microsopy.

Final Treatment

It was decided that he is to wear a Kendall brace for the discitis. Patient received physiotherapy for mobilisation and has made some improvements, using a rollator. Bed rest is no longer recommended for patients suffering of discitis so as to improve the osmotic pressure and hence increase blood flow to the intervertebral disc. The patient was kept on antibiotics and symptoms improved.

References:

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