

*'Meet the Experts' Session :*



**A patient with a short  
history of Jaundice with  
Muscle pain and weakness**

*Presented by –*



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# Case summary:

The patient, Mr. Abdul Kader, 40 years old married Muslim male, cultivator by occupation, non-diabetic, normotensive and a smoker for 25 years, hailing from Muradnagar, Comilla was admitted to Dhaka Medical College Hospital on 9<sup>th</sup> November, 2004 through Emergency room with the complaints of –

- Pain in the muscles of both lower limbs for 5 days
- Weakness of both lower limbs and inability to walk for 3 days, and
- Jaundice for 3 days

## Case summary (contd.):



In his clinical history, the patient stated that he was quite well 5 days before admission. Then he developed pain in the muscles of the back of the thigh that gradually spread to the back of the legs over 5-6 hours. Two days after pain, the patient experienced severe weakness of both lower limbs.

## Case summary (contd.)

Pain and weakness were so severe that the patient was unable to walk without the help of others. He could not get up from sitting position or climb the stairs as well.

Pain was aggravated on movement and relieved on lying still. Pain did not involve the joints or sole or not increase with cough. The weakness was not associated with any change in sensation in skin or tingling or numbness of legs.

## Case summary (contd.)

The patient and his attendants also noticed yellow colouration of his eyes, skin and urine for 3 days. There was no nausea, vomiting, loss of appetite or abdominal pain. He did not give any previous history of jaundice or blood transfusion.

On query, he told that he had an attack of fever 5 days back. Fever was low-grade intermittent in nature that was not associated with chills, rigor, sweating or cough. Fever lasted for 3 days and subsided without any medication.

## Case summary (contd.):



He had no history of weight loss or weight gain, intolerance to heat or cold or palpitation. There was no significant history of fall, Surgery, recent vaccination, history of intake of Steroid or other drugs or contact with Tuberculosis patient.

His bowel and bladder habit was normal without any alteration of sleep pattern.

# Case summary (contd.)



No specific treatment was taken by him before admission to the Dhaka Medical College Hospital (DMCH).

After admission in the DMCH, he was treated conservatively with bed rest, Lactulose, Vitamins, H2-receptor blockers and occasional Pain-killers.

After 3 days in Hospital, the pain and weakness of both lower limbs subsided with restoration of normal function.



# Case summary (contd.)

He did not give any significant past medical history. His immunization was incomplete. There was no known allergy to anything.

He is smoker for 25 years (4-5 sticks/ day), takes Betel leaf – for 23 years. He is non- alcoholic, not a drug abuser and there was no history of sexual exposure.

All of his family members are in good health. He belongs to lower socioeconomic group. He drinks water from tube well and takes usual Bengali diet.

## On General examination: (10.11.2004)

- Appearance was Ill-looking with below-average body built and nutrition.
- Patient was **moderately** anaemic, **deeply** icteric and having **clubbing** of fingers and toes.
- There was a hyper-pigmented area in the central part of abdomen (due to previous Dermatitis and Eczema).
- His Pulse was 76 beats/ min, regular in rhythm, symmetrical on both sides. His Blood pressure was 100/60 mm Hg, respiratory rate was 16 breaths/ min and temperature was 98.6° F.
- There was no other significant general finding.

# Systemic examination: Nervous system examination:

- Higher psychic function: Normal
- Cranial nerves: All cranial nerves are intact
- Motor function:
  - Muscles were tender on movement, no erythema seen.
  - Bulk of the muscle: Normal
  - Tone of the muscle: Normal

## Nervous system examination (Contd.):

### Power of the muscle:

- Weakness mainly in-
  - Thigh muscles  
(Flexor & Extensor groups as well as Adductor & Abductor groups)
  - Leg muscles  
(Flexor & Extensor groups)

	<u>Right side</u>	<u>Left side</u>
Upper Limb	5/5	5/5
Lower Limb	3/5	3/5

# Reflexes:



	<u>Plantar response</u>	<u>Ankle jerk</u>	<u>Knee jerk</u>	<u>Biceps jerk</u>	<u>Triceps jerk</u>	<u>Supinator jerk</u>
Right side	<b>Equivocal</b>	<b>Diminished</b>	<b>Diminished</b>	<b>Normal</b>	<b>Normal</b>	<b>Normal</b>
Left side	<b>Equivocal</b>	<b>Diminished</b>	<b>Diminished</b>	<b>Normal</b>	<b>Normal</b>	<b>Normal</b>

## Nervous system examination (Contd.):

- Clonus: Absent
- Involuntary movement: Absent
- Sensory system: Normal
- Coordination test: Normal
- Signs of Meningeal irritation: Absent
- Gait:
  - Could not be elicited initially because of severe pain and weakness
  - Later examination revealed that gait was normal.

# Locomotor system examination:

- Gait:
  - Could not be elicited initially because the patient could not walk
  - Later it was normal
- Upper limbs:
  - Bones, joints and muscles– normal
- Lower limbs:
  - Bones and joints – normal
  - Muscles were tender on movement
  - No erythema or muscle wasting present
  - When the patient arises from lying, he used his hands to climb up himself (**Gower's sign**): positive
- Spine:
  - Normal
  - No tenderness or swelling present

# Alimentary system examination:

## Oral cavity:

Normal

## Abdomen proper:

- **Spleen:** Enlarged 3 cm from left costal margin in Mid clavicular line, non tender, no splenic rub
- Liver, Gall bladder, Kidneys, Para-aortic lymph nodes – Not palpable. Upper border of liver dullness: in the 6<sup>th</sup> Intercostal space in right mid-clavicular line
- Fluid thrill & Shifting dullness: Absent
- Hernial orifices: Intact
- Examination of external genitalia:
  - **Right testis was smaller than the left and both were soft in consistency.**

## Per rectal examination:

Revealed no abnormality



## Systemic Examination (Contd.):

### Cardiovascular system examination:

Revealed no abnormality

### Respiratory system examination:

Revealed no abnormality

# Problems:



- Is there any association between his Jaundice and muscle pain and weakness of lower limbs?
- What is the cause of his transient weakness?
- What is the cause of the rapid progression of his deep jaundice?
- What is his prognosis?
- What treatment is suggested for the pain and weakness if it recurs in the future?

# *Provisional diagnosis:*



# Provisional diagnosis:



Inflammatory  
Myositis  
with  
Chronic liver  
disease

# *Differential diagnosis:*



# Differential diagnosis:



- **Adult Polymyositis with Chronic Liver disease**
- **Leptospirosis**
- **Guillain-Barre Syndrome with Chronic Liver disease**

# Investigations done:

## Complete blood count:

[11.11.2004]

- **Haemoglobin** = 9.1 gm/dl
- **Platelet** = 190000/cmm
- **PCV** = 35%
- **ESR** = 55 mm in 1<sup>st</sup> hour  
(Westergren method)
- **WBC**
- Total count = 9700/cmm
- Differential count –
  - Neutrophil – 66%
  - Lymphocyte – 25%
  - Monocyte – 2%
  - Eosinophil – 07%
  - Basophil – 0%

## Investigations done (Contd.):

	<u>13.11.2004</u>	<u>1.12.2004</u>
S. Creatinine	4.6 mg/ dl	1.2 mg/dl
<u>S. Electrolytes</u>		
Na+	138 mmol/L	140 mmol/L
K+	3.2 mmol/L	3.0 mmol/L
Cl-	108 mmol/L	108 mmol/L
HCO <sub>3</sub> <sup>-</sup>	21 mmol/L	27 mmol/L
<u>Random blood sugar</u>	4.8 mmol/L	
<u>Fasting blood sugar</u> (21.11.2004)	5.8 mmol/L	
S. Calcium		8 mg/dl



## Investigations done (Contd.): Liver function tests

<u>Investigations</u>	<u>9.11.2004</u>	<u>20.11.2004</u>	<u>1.12.2004</u>
S. Bilirubin	16.2 mg/dl		3.5 mg/dl
S. Alanine aminotrasferase (ALT)	228 U/L		48 U/L
Prothrombin time	15.8 seconds (Control=12 sec. INR=1.38)		
S. Total protein		60 gm/L	
S. Albumin		31 gm/L	
S. Globulin		29 gm/L	
A:G ratio		1.06:1	

# Investigations done (Contd.):

- HBsAg  
[by ELISA\_method]  
on 9.11.2004:  
POSITIVE
- Anti-HBc IgM  
[by ELISA method]  
on 17.11.2004:  
NEGATIVE
- HBeAg  
on 2.12.2004  
NEGATIVE
- Anti-HCV  
on 2.12.2004  
NEGATIVE
- Anti-HEV IgM  
on 2.12.2004  
NEGATIVE

## *Investigations done (Contd.):*

- S. Creatine Phosphokinase (CPK):  
on 10.11.2004 -  
    930 U/L (Range: M=24-195, F= 24-170)  
on 2.12.2004 –  
    48 U/L
- Anti-nuclear factor (ANF) – on 2.12.2004  
    Negative

## *Investigations done (Contd.):*

- **X-ray Chest (P/A view):** on 10.11.2004  
Normal study
- **Endoscopy of the upper GIT:** [on 20.11.2004]
  - Oesophagus: Normal, no varix seen
  - Stomach: Fundus and body show multiple subepithelial haemorrhages
  - Pre-pyloric area show: multiple erosions
  - Duodenum: Normal

**Comment:** Erosive and haemorrhagic gastritis

# Investigations done (Contd.):

## Ultrasonography of Whole Abdomen [18.11.2004]:

- Hepatobiliary System
  - Liver: Normal in size with uniform echotexture having no focal lesion
  - Gall bladder: shows signs of inflammation or calculus
- Spleen: Enlarged
- Kidneys:
  - Both Kidneys are normal in size
  - Most of the renal parenchyma composed bright echogenic components
- Rest: Normal

Comment: Splenomegaly

# Investigations done (Contd.):

## Routine Microscopic examination of Urine: [on 21.11.2004]

- Epithelial cells: Plenty/HPF
- Pus cells: 1-3/ HPF
- Albumin: Trace
- Sugar: Nil
- Cast: Absent

## CSF Study: [on 1.12.2004]

- Appearance: clear, watery
- Reaction: alkaline
- Sugar: 3.2 mmol/L (range: 2.8-4.4)
- Protein: 36 mg/dl (range: 15-45)
- Total WBC count: < 5 cells/cmm (Lymphocytes-90%, PMNs-10%)

## *Investigations done (Contd.):*

Thyroid function test: on 2.12.2004

- T3 = 102 ng/dL (Normal range: 70-170 ng/dL)
- T4 = 6.15 µg/dl (Normal range: 4.5-12.5 µg/dl)
- TSH = 5.4 µIU/mL (Normal range: 0.27-4.2 µIU/mL)

## *Investigations done (Contd.):*

- Muscle Biopsy – (done on 24.11.2004)
  - ▣ Specimen: Superior flexor muscle of left thigh.
  - ▣ Light microscopy: sections from muscle biopsy show normal histology characterized by peripheral orientation of the nucleus with preserved striation. There is no variability in the size and shape of the muscle fibre. No evidence of inflammation is seen.

**Comment:** No significant change is seen in Light microscopic examination.
- EMG – to be done on 7.12.2004



# Confirmed Diagnosis:



- Yet to come
- Possible diagnosis:
  - Viral Myositis with Acute Renal failure with Chronic Liver Disease



Thank  
You.