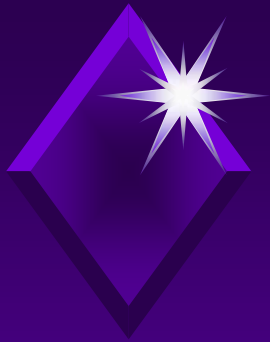


Pediatric Oncology Case Presentation

By

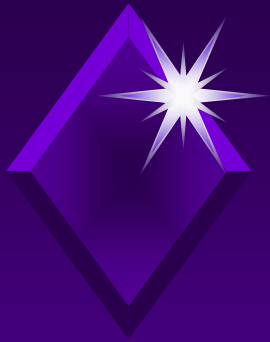
Hanan Fawzy Nazir

Assistant lecturer of Pediatric
Hematology



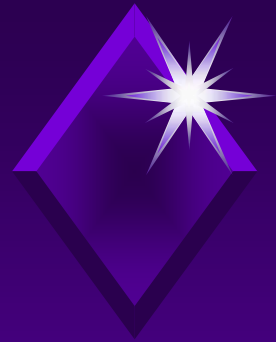
Personal Data

- Female patient named Asmaa Ahmad Khalil
- Date of diagnosis: 20- 11- 2004
- Age at diagnosis: 4 years, 3 months



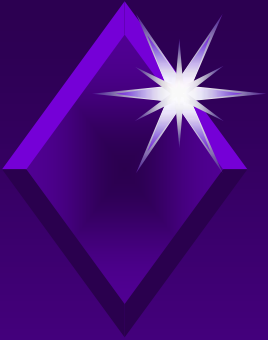
Presentation

- fever, bony aches, purpura, hepatosplenomegally and generalized lymphadenopathy.
- CNS: no evidence of CNS involvement



Initial investigations

- CBC: Hb: 9 gm / dl
WBC: 26000 / cmm , Blasts: 89%
platelets: 22000 / cmm
- BM: 69% blasts positive for CD10, CD19



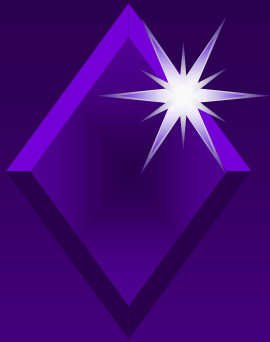
- Bacteriologic studies:

Urine analysis and culture : free

Stool analysis: free

Blood culture: sterile

CSF cytology: acellular smear and sterile culture



Treatment

- I- Induction of remission:

Oral steroids daily for 28 days

Vincristin: 4 doses

Adriamycin: 4 doses

L- asparaginase: 9 doses

ITh methotrexate: 3 doses

- Day 14 BM: 3% blasts



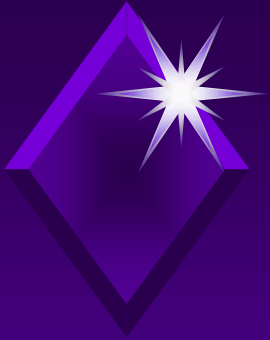
- II- Intensification :

Vincristin: 4 doses

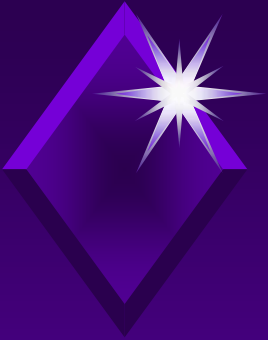
Cytarabine:16 doses

L- asparaginase: 9 doses

Cyclophosphamide and Mesna: 2 doses



- III- CNS prophylaxis:
cranial irradiation: 12 sessions
Intrathecal chemotherapy

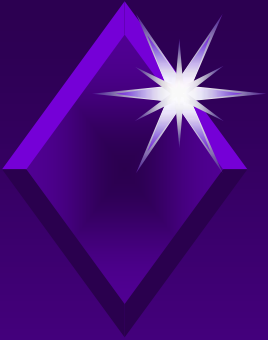


- IV- Intrem Maintenance:

6- MP daily

Methotrexate oral /week

ITh



- V- Reinduction:

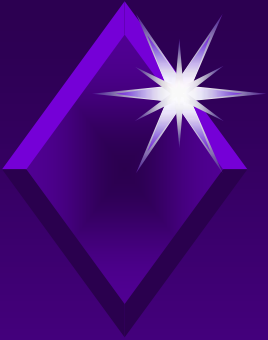
Oral steroids

Vincristin: 4 doses

Adriamycin: 4 doses

L- asparaginase: 9 doses

ITh: 2 doses



- VI- Reintensification:

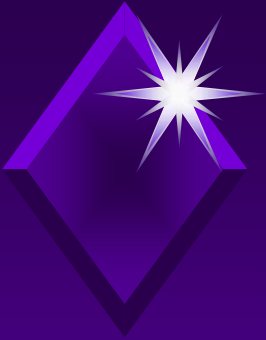
Vincristin: 4 doses

Cytarabine: 8 doses

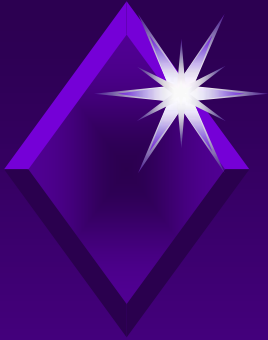
L- asparaginase: 6 doses

Cyclophosphamide and Mesna: 2 doses

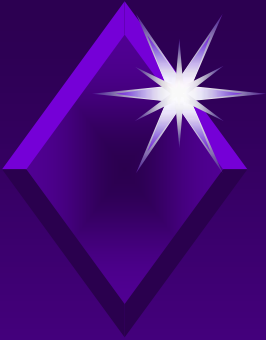
BM: ALL in remission with 3% blasts



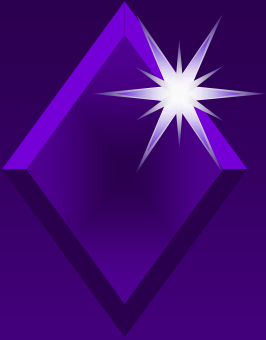
- She started continuation maintenance on 13-12-2005
- About 1 year later, on 30-1-2007, she presented to hospital with fever, inability to walk, severe pain and limitation of movement of Lt hip
- CBC at this time revealed anemia (Hb 8.1 gm/dl), leucopenia (WBC 1,100/cmm) and thrombocytopenia (plat 89,000/cmm)



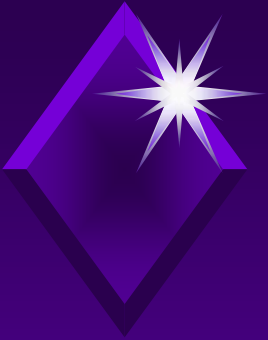
- ESR 90/135 mm
- CRP positive
- U/S hips :
 - Diffuse thickening of the synovial lining of the left hip joint of an echogenic linear pattern, + minimal amount of anechoic collection.
 - Intact linear echogenic pattern of the left femoral head and the femoral shaft.



- No soft tissue masses or collection
- Rt hip: Normal.
- Opinion: left hip joint synovitis.
- She received repeated courses of antibiotics (cefotaxime+ unasyn, vancomycin + amikacin, meronem+ fortum) with no improvement



- MRI of the LT hip joint :
- An irregular fluid intensity loculation, 6 x4 cm in dimensions is noted along the medial aspect of Lt upper thigh within the Lt thigh adductors.
- + extensive abnormal signal involving the Lt thigh musculature, primarily the adductors, quadriceps femoris and proximal hamstrings.



- Ill definition of the posterior cortex of the proximal femur with marrow infiltration, reflecting osseous violation.
- The reported fluid loculation shows marginal enhancement, with otherwise intense enhancement of the involved muscles and abnormal marrow.

Sc 7
TIR/M
SI 12

H

Sc 7
TIR/M
SI 11

L

10 cm

1 7 2008



Sc 7
TIR/M
SI 11

H

Sc 7
TIR/M
SI 10

L

10 cm

L

10 cm

1 7 2008

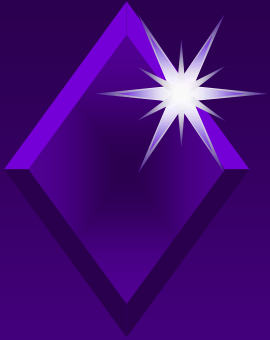




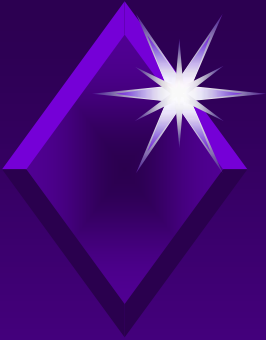
- The described features are highly impressive of primarily mast cell infective process with abscess formation
- Depending upon an expert orthopedic surgeon opinion, antituberculous treatment was started using combination of INH + rifampicin+ ethambutol and a hip spika was applied.



- This treatment resulted in rapid and marvelous improvement with amelioration of fever and pain and restoration of joint function.
- But it was complicated by severe cholestasis, which was aggravated by being positive for hepatitis C virus infection, so treatment couldn't be continued beyond 4 months duration.



- About 1 year later, on May 2008, the patient was admitted with fever, vomiting, headache and drowsiness, followed within 1 week by disturbed sensorium, aphasia, dysphagia, tetraparesis, incontinence mounting to coma with extensive fungal infection of the buccal mucosa



- CSF:

Sample, clear, colorless with no deposits and no coagulum

Protein: 76 mg/ dl

Glucose: 78 mg/ dl

WBC: 14/ cmm N: 2/ cmm

 L: 12/ cmm

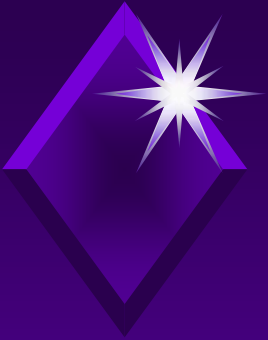
 no abnormal cells

RBC: nil

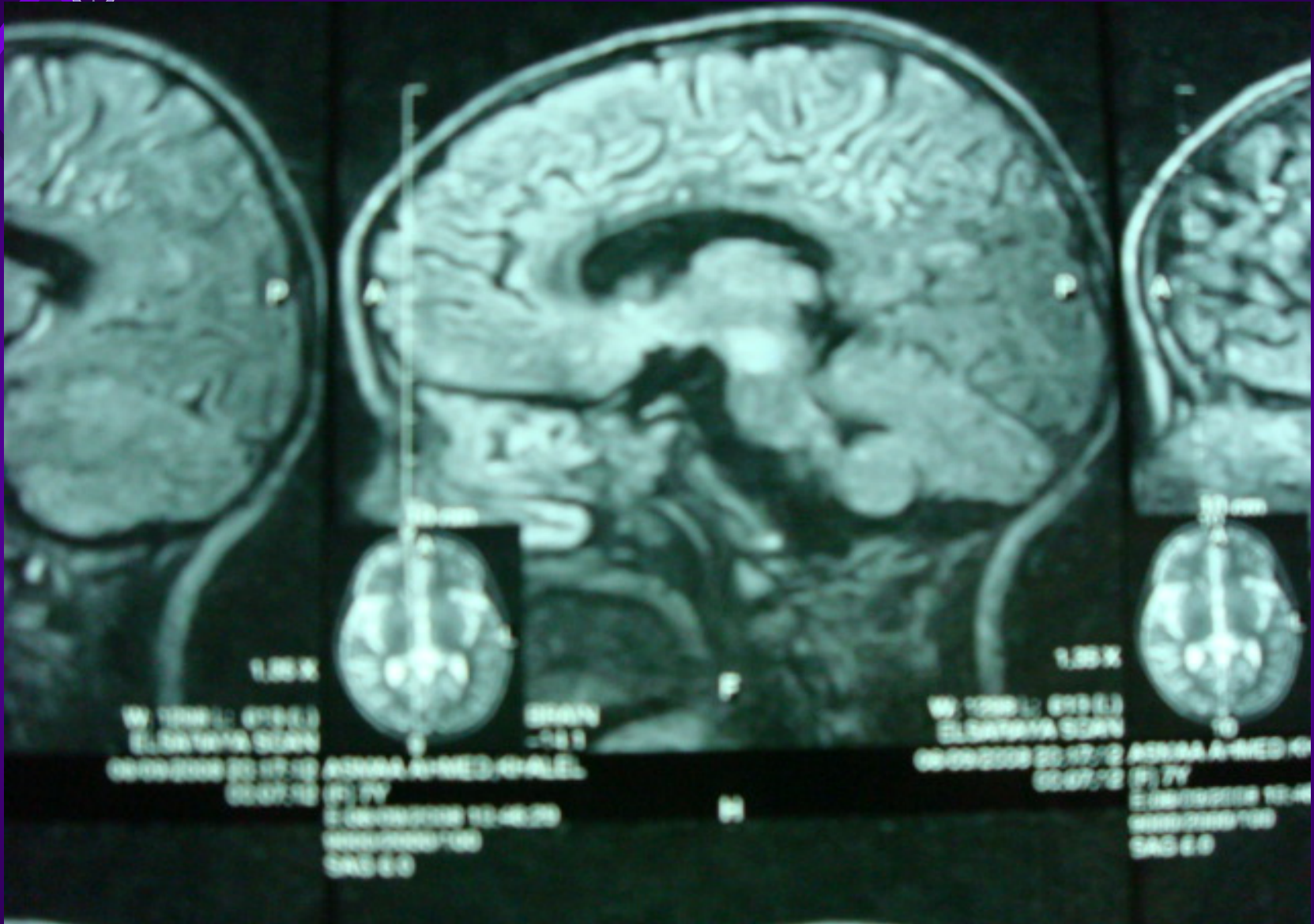
Culture : sterile

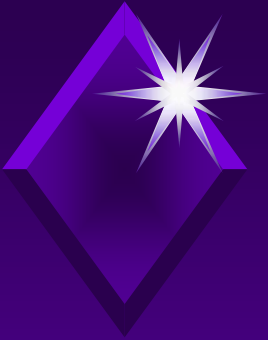
ZN stain: negative

PCR for TB: negative (in the blood)



- CT brain: unremarkable study
- MRI brain:
 - spots of abnormal signal intensity involving the Lt thalamus and the Rt cerebral peduncle, mostly vasculitis or viral meningitis. Otherwise, the study was normal.
- Fundus examination: free





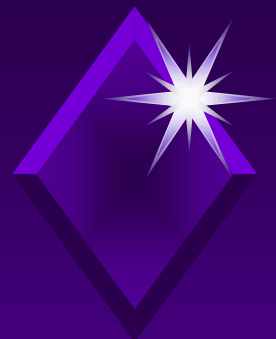
- CBC: macrocytic anemia, leucopenia, absolute neutropenia and thrombocytopenia.
- BM: B- lineage ALL in remission with 2% blasts
- Blood gases: respiratory alkalosis.
- Normal levels of renal, liver function tests, as well as electrolytes.



- Treatment with different combination of antibiotics, antiviral, and antifungal agents was ineffective.
- Considering her past history of presumed tuberculous arthritis, anti tuberculous agents + corticosteroids started, in addition to ampicillin and chloramphenicol.

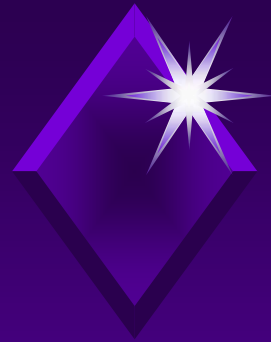


- Within 1 week of such a treatment, the patient showed marked improvement with gradual restoration of consciousness, speech and ambulation.
- Now, after 3 weeks of antituberculous treatment, the patient is fully conscious, oriented, neurologically free, apart from slight weakness of both lower limbs, impaired visual acuity with diplopia.



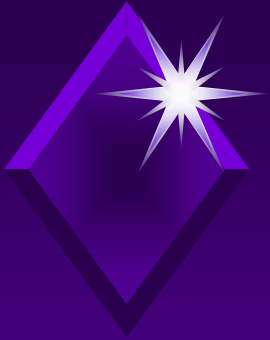
The question is:

- Based on the previous data, is the diagnosis of tuberculous meningitis a solid one?
- Is the marvelous response to antituberculous drugs enough to continue the complete course?

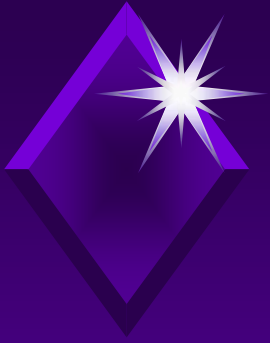


Characteristics of tuberculous meningitis

- *CT and/or MRI :*
 - meningeal involvement is shown by iso or hyperdense basal cisterns on non contrast scans.
 - thickening and intense enhancement of the meninges around the brainstem and Sylvian fissures after injection of contrast medium.



- hydrocephalus is present in 50 to 80 % of cases,
- ischemic cerebral infarctions found in 25 to 30 %,
- periventricular edema, and tuberculomas in 10 to 20 %.



THANK YOU