Infective shoulder arthritis

Case history

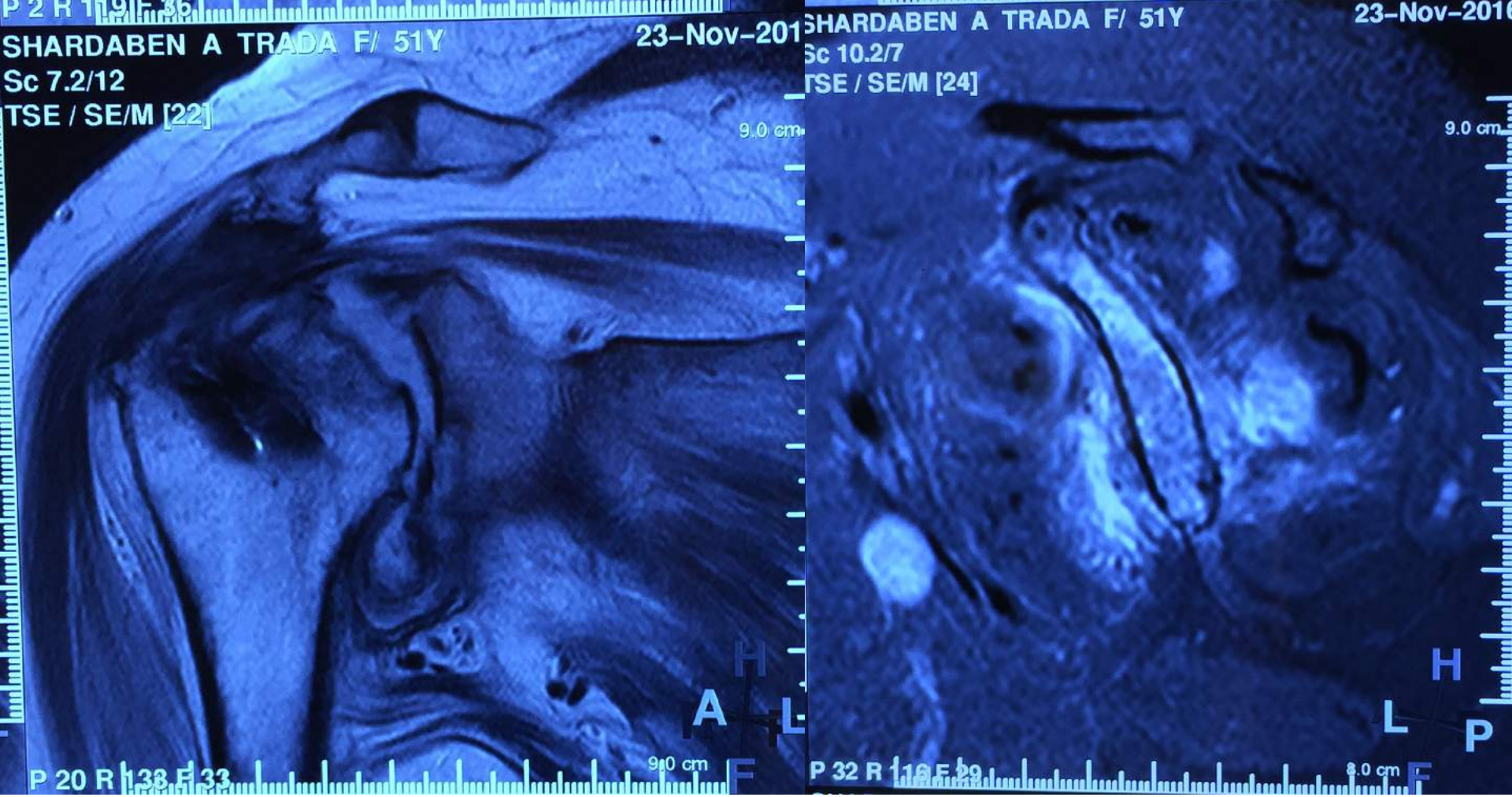
- Diagnosed to have retracted supraspinatus muscle tear of Right shoulder in July 2015
- Surgery done on 23-10-2015
- Two Anchors were used
- Clinically improved significantly in next two months with regaining of 90% of movement
- Asymptomatic till September 2016

Case history

- Gradually increasing Pain over right shoulder since early October 2016
- Unable to move right upper limb
- Past H/O BT before 15 yrs for menorrhagia
- No other significant present, past, family or personal history
- On examination : restriction of movement of shoulder in almost all direction
- Rest of her general and systemic examination was normal

Case history

- Consulted orthopaedic surgeon for the same
- Asked for NCV/EMG (23-11/2016) : normal
- MRI Shoulder was done



MRI : 23/11/2016 – Arthropathy changes with diffuse synovitis and intra-articular fluid collection at glenohumeral joint

Case contd…

- Fluid aspirated send for all cultures and gene Xpert
- Grew *Aspergillus nidulans*
- 09/12/2016- arthroscopy, debridment, synovial biopsy was done ad tissue/fluid send for geneXpert, fungal and TB culture
- Grew same fungus *Aspergillus nidulans*

LABORATORY REPORT

Registration Date & Time	: 28-Nov-2016 15:02	Sample Type	: FLUID
Sample Date & Time	: 28-Nov-2016 15:06	Sample Collected By	: STMPL
Report Date & Time	: 05-Dec-2016 19:46	Accessioning Remarks	:

TEST	RESULTS
CULTURE FOR FUNGUS	
Specimen	**FLUID**
KOH Preparation:	**Fungal Elements are not seen**
Gram - Stain :	**No organism, moderate pus cells are seen.**
Z.N.Stain	**AFB NOT DETECTED**
Organism	**Aspergillus nidulans**
Colony Count	**Moderate**
Note	**Please corelate clinically with clinical history of patient to rule out colonisers/contaminants..**

SUPRATECH MICROPATH

LABORATORY & RESEARCH INSTITUTE PVT. LTD.

/ 365 Days

Quality to lead, Services to deliver...

Case ID	: **1105831216**	Pt. ID	: 2006280416
Sex/Age	: **F / 52 Years**	Ph / Mo	: / 9558838447
Ref By	: PREETESH	SHAH (ORTHO) - MS	

(Report)

LABORATORY REPORT

egistration Date & Time	: 09-Dec-2016 19:11	Sample Type	:
ample Date & Time	: 09-Dec-2016 19:04	Sample Collected By	: STMPL
eport Date & Time	: 10-Dec-2016 11:15	Accessioning Remarks	:

EST	RESULTS	UNIT	EXPECTED VALUES	REMARKS
	MTB/RIF Detection (Xpert Assay)			
Specimen	**TISSUE**			
Result Of Genexpert-TB	**MTB NOT DETECTED.**			

SUPRATECH MICROPATH

/ 365 Days LABORATORY & RESEARCH INSTITUTE PVT. LTD.

Case ID : **1105851216** Pt. ID : 2006280416

Sex/Age : **F / 52 Years** Ph / Mo : / 9558838447

Ref By : PREETESH SHAH (ORTHO) - MS

Quality to lead, Services to deliver...

(Report)

LABORATORY REPORT

egistration Date & Time	: 09-Dec-2016 19:13	Sample Type	: TISSUE
ample Date & Time	: 09-Dec-2016 19:12	Sample Collected By	: STMPL
eport Date & Time	: 14-Dec-2016 19:16	Accessioning Remarks	:

EST	RESULTS
CULTURE FOR FUNGUS	
pecimen	**TISSUE**
OH Preparation:	**Fungal Elements are not seen**
ram - Stain :	**No organism, moderate pus cells are seen.**
.N.Stain	**AFB NOT DETECTED**
rganism	**Aspergillus nidulans**
olony Count	**Moderate**
ote	**Please corelate clinically.**

(Report)

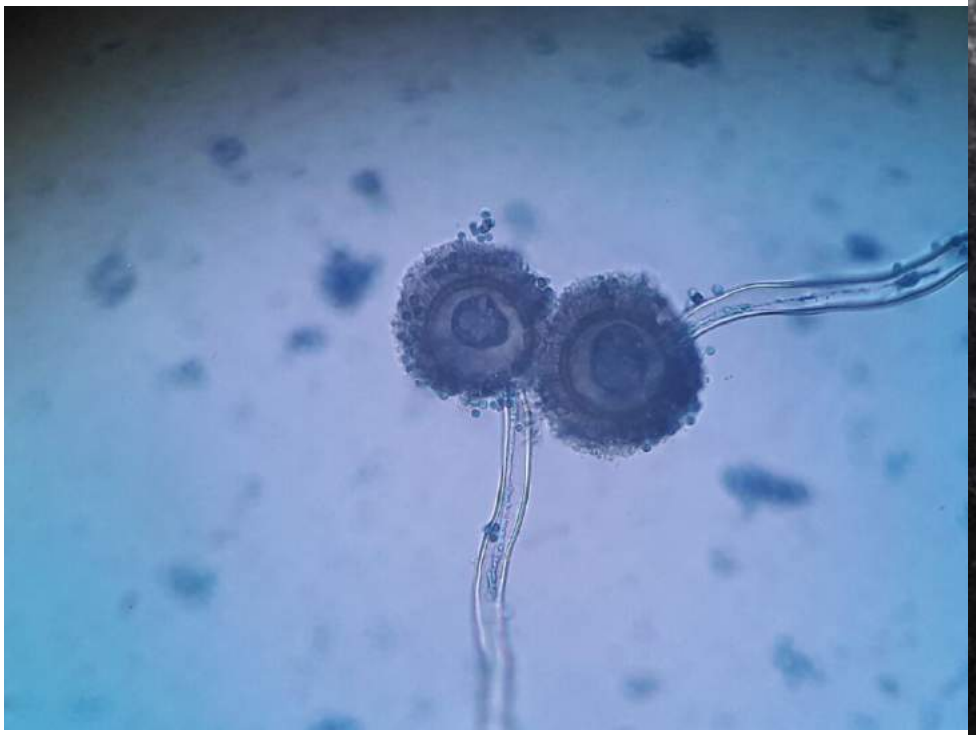
LABORATORY REPORT

Registration Date & Time	: 16-Dec-2016 13:35	Sample Type	: PLATE
Sample Date & Time	: 16-Dec-2016 13:34	Sample Collected By	: STMPL
Report Date & Time	: 20-Dec-2016 18:42	Accessioning Remarks	:

TEST	RESULTS	UNIT

DRUG SENSITIVITY REPORT FOR FUNGUS

Specimen	**TISSUE**	
Organism	**Aspergillus nidulans**	
Posaconazole (0.008 - 8 µg/ml)	**S (0.008)**	µg/ml
Amphotericin-B (0.008 - 16 µg/ml)	**S (1.0)**	µg/ml
Fluconazole(0.125 - 256 µg/ml)	**Not applicable**	µg/ml
Itraconazole(0.008 - 16 µg/ml)	**S (0.015)**	µg/ml
Ketoconazole (0.008 - 16 µg/ml)	**Not applicable**	µg/ml
Flucytosine(0.03 - 64 µg/ml)	**Not applicable**	µg/ml
Voriconazole(0.008 - 16 µg/ml)	**S (0.06)**	µg/ml
Caspofungin(0.008 - 16 µg/ml)	**S (0.03)**	µg/ml



Treatment started

- Voriconazole 300 mg bd on first day and then 200 mg bd according to her weight
- Clinically improved in next 15 days
- Repeat MRI done on 26/01/2017

INFOCUS DIAGNOSTICS
FOCUS = CARE
AMBAWADI

NAME	SHARDABEN TRADA	AGE/SEX	52 YRS / F
REF.BY	DR. PREETESH SHAH	DATE	26/01/2016

IMPRESSION:

- Arthropathy changes with diffuse synovitis and intraarticular fluid collection at glenohumeral joint.
- Mild to moderate tendinopathy changes in supraspinatous tendon with footplate marrow changes . No evident full thickness tear in supraspinatous tendon.

As compared to previous MRI dated 23 November 2016, there is regression in periarticular inflammatory changes with reduced in synovial signal intensity, suggest mild-to-moderate regression in disease process.

DR. BINIL PATEL
CONSULTING RADIOLOGIST

DR. VISHAL SHAH
CONSULTING RADIOLOGIST

Follow up

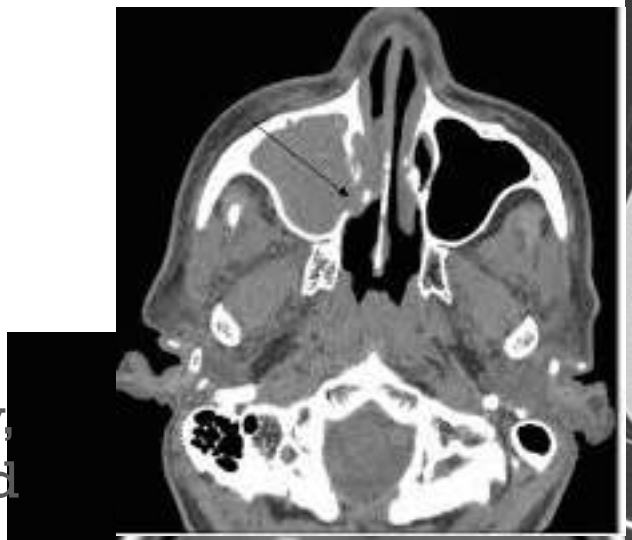
- Completed two and half month of treatment
- Still she is on voriconazole treatment
- Repeat MRI planned after one month

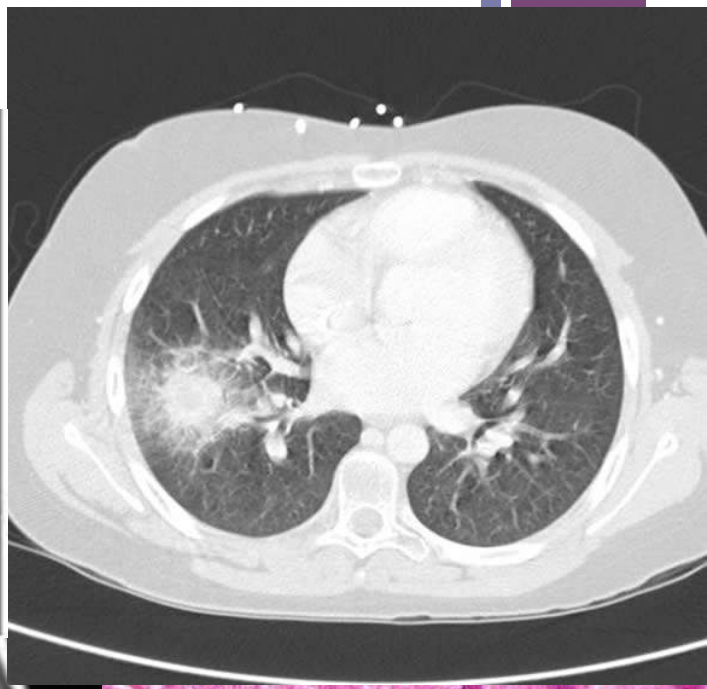
Risk factors IA

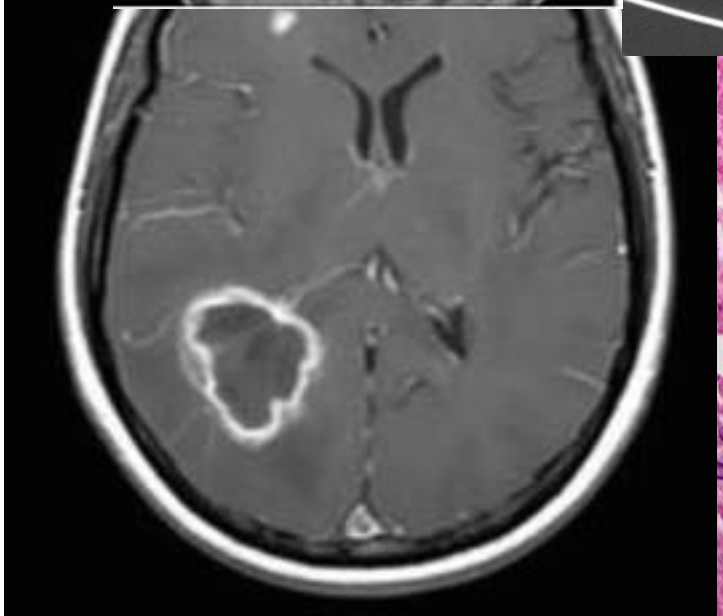
- Prolonged neutropenia
- Allogeneic hematopoietic stem cell transplant (HSCT), solid organ transplant (SOT)
- Inherited or acquired immunodeficiency
- Corticosteroid use
- Chronic Granulomatous Disease (CGD)
- Hematologic malignancies, myelodysplastic syndrome, and other diseases associated with marrow failure ---neutropenia

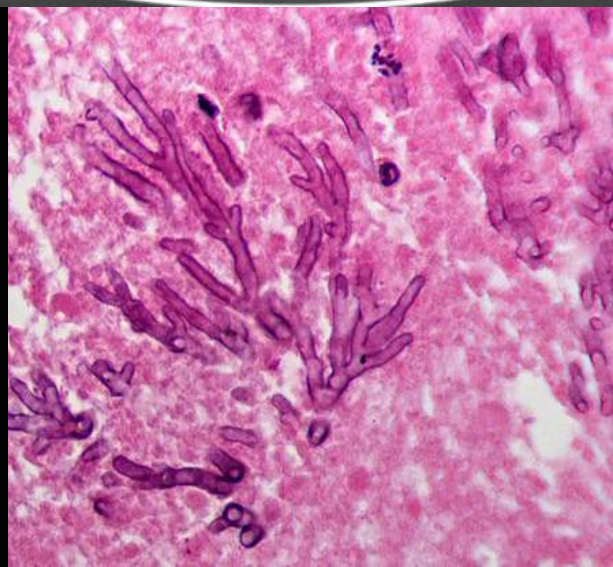
Presentations

- IPA
- Invasive sinusitis
- Disseminated : From lung to brain, skin, thyroid, bone, kidney, liver, GI tract, eye and heart valve









Diagnosis

- Laboratory markers
  - Galactomannan level
  - (1→3) Beta D Glucan : more sensitive but less specific
- Radiology
- PCR based test ??

Galactomannan in IA

- Accurate marker – Haematologic malignancy and HSCT
  - Sensitivity of 90% ; specificity of 98.%; PPV 88% and NPV 98%, respectively
- Not recommended for screening in
  - Mold-active antifungal therapy or prophylaxis
  - Can be applied to bronchoscopy specimens from those patients
  - In SOT recipients or patients with CGD
- False positive
  - Certain antibiotics, neonatal colonization with Bifidobacterium, when Plasmalyte is used in BAL fluids, and in patients with other invasive mycoses (including penicilliosis, fusariosis, histo- plasmosis, and blastomycosis)

Blood 2001 97:1604-1610
ClID (2006) 42 (10): 1417-1727
CID 2016:63 (15 August)

Invasive syndromes of Aspergillus	Primary	Alternative
IPA	Voriconazole (6 mg/kg IV 12 h for 1 d, followed by 4 mg/kg IV 12 h Oral therapy can be used at 200–300 mg 12h or weight based dosing on a mg/kg	Primary: Liposomal AmB (3–5 mg/kg/day IV), Isavuconazole 200 mg every 8 h for 6 doses, then 200 mg daily Salvage: ABLC, caspofungin , micafungin, posaconazole oral suspension: 200 mg TID; tablet: 300 mg BID on day 1, then 300 mg daily, IV: 300 mg BID on day 1, then 300 mg daily, itraconazole suspension
Invasive sinus aspergillosis	Similar to IPA	Similar to IPA Surgical debridement as an adjunct
Aspergillosis of the CNS	Similar to IPA	Similar to IPA Surgical resection may be beneficial in selected cases

Clin Infect Dis 2016:63 (15 August)

Aspergillus infections of the heart (endocarditis, pericarditis, and myocarditis)	Similar to IPA Combination Rx ??	Similar to IPA Endocardial lesions caused by Aspergillus species require surgical resection; Aspergillus pericarditis usually requires pericardiectomy
Aspergillus osteomyelitis and septic arthritis	Similar to IPA	Similar to IPA Surgical resection of devitalized bone and cartilage is important for curative intent
Aspergillus infections of the eye (endophthalmitis and keratitis)	Systemic IV or oral voriconazole plus intravitreal AmB or voriconazole indicated with partial vitrectomy	Similar to IPA; Limited data with echinocandins and poor ocular penetration by this class
Empiric and preemptive antifungal therapy	For empiric antifungal therapy, Liposomal AmB (3 mg/kg/day IV), caspofungin, micafungin,	Preemptive therapy is a logical extension of empiric antifungal therapy in defining a high-risk population with evidence of invasive fungal infection (eg, pulmonary infiltrate or positive GM assay result)