In The Name of God

SPONDYLOARTHROPATHY

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Case presentation

- A 43-year-old man with back pain, fatigue, , and knee swelling was admitted to this hospital because of abnormal findings on magnetic resonance imaging (MRI) of the spine performed at another hospital
- Approximately one month before admission, he fell and had increasing back spasms thereafter, with partial improvement after chiropractic treatment

Case presentation

- The pain was chronic with exacerbations, was localized in the thoracic and lumbar regions without radiation, worsened when he lay flat (despite the administration of narcotic agents for pain control), and diminished with ambulation.
- The level of C-reactive protein was 13 mg per liter (reference value, <8.0), and the erythrocyte sedimentation rate was 23mm per hour . A complete blood count, a white-cell differential count, and results of tests of coagulation and liver and renal function were normal, as were blood levels of electrolytes, glucose, calcium, phosphorus, magnesium, total protein, albumin, and globulin. Oxycodone was administered for pain

Lab test

- RF : neg
- ANA : neg
- Anti CCP : neg
- Ca ; neg
- Cr : neg

- Dx : spondyloarthropathy

- It is a chronic inflammatory disease affecting the axial skeleton,the entheses, and occasionally the peripheral joints. A broader term, axial spondyloarthritis, has been adopted to describe both the radiographic and nonradiographic forms of SpA that affect the axial joints

- The hallmark of axSpA is inflammatory back pain (IBP) associated with sacroiliitis and spondylitis. In addition to the axial, entheseal, and appendicular skeletal involvement, axSpA can be associated with extraarticular manifestations, especially uveitis and, less commonly psoriasis and inflammatory bowel disease (IBD)

CLINICAL FEATURES

- Associated comorbidities include osteoporosis and cardiac, pulmonary, and renal disease

CLINICAL FEATURES : IBP

- The first symptoms of AS usually appear in adolescence to early adulthood and almost invariably start before the 45 years of age

Differentiation of inflammatory versus mechanical low back pain (LBP)

	Inflammatory LBP	Mechanical LBP
Age of onset	<40 yr	Any age (usually later)
Type of onset	Insidious	Acute
Symptom duration	≥3 mo	<6 wk
Morning stiffness	≥30 min	<30 min
Nocturnal pain	Common	Absent
Effect of exercise	Improvement	Exacerbation
Back mobility	Loss in all planes (late finding)	Abnormal flexion
Chest expansion	Decreased (late finding)	Normal
Neurologic deficits	Rare	Possible

CLINICAL FEATURES : IBP

- a good response to NSAIDs within 48 hours is a good predictor of the presence of inflammatory low back pain and axSpA, with a sensitivity of 75%

CLINICAL FEATURES : IBP

- Occasionally, the first symptom comes from extraarticular sources, such as acute anterior uveitis or enthesitis; in fact, with disease onset in childhood, peripheral joint and entheseal manifestations figure prominently

CLINICAL FEATURES : IBP

- Neck pain and stiffness is characteristic of advanced disease, although it can be a dominant feature in early AS in women

CLINICAL FEATURES : HIP AND SHOULDER INVOLVEMENT

- up to 50% of patients and may be more common than involvement of the peripheral joints

- Hip disease in AS is a marker of more severe spinal disease in adults, although there is a higher prevalence of hip involvement and greater need for hip arthroplasty in juvenile-onset AS

CLINICAL FEATURES : HIP AND SHOULDER INVOLVEMENT

- In the shoulders, joint space narrowing and erosive changes in the superolateral aspect of the humeral head

- Chronic rotator cuff tears can also be seen in AS patients

CLINICAL FEATURES : PERIPHERAL ARTHRITIS

- joints other than the hips and shoulders is less common in AS, but when it occurs, it is usually an asymmetrical oligoarthritis, presenting predominantly in the lower extremities

- early in the disease course, it is a predictor of more aggressive disease

- more common in women12 and juvenile-onset AS

CLINICAL FEATURES : CHEST WALL INVOLVEMENT

- enthesopathy at the costosternal and manubriosternal joint

- the costovertebral joints may fuse, which diminishes chest expansion and can lead to restrictive lung disease of a mechanical nature

CLINICAL FEATURES : ENTHESITIS

CLINICAL FEATURES : PHYSICAL EXAMINATION FINDINGS

- modification of the Schober test
- Chest wall expansion
- occiput-to-wall distance : this may not be true in male patients older than age 50 years
- lumbar lateral bending

EXTRAARTICULAR MANIFESTATIONS

Uveitis

- Acute anterior uveitis is the typical uveitis associated with SpA and is the most common extraarticular clinical feature of SpA

- associated with disease duration

- Because uveitis is symptomatic, there are no recommendations for screening patients; rather, patients are educated to seek medical care at the onset of symptoms

EXTRAARTICULAR MANIFESTATIONS
Gastrointestinal manifestations

- Those with chronic inflammatory lesions tend to have more severe erosive peripheral and hip arthritis
- Risk factors for evolution to overt IBD :
- the presence of chronic inflammatory gut lesions
- persistence of elevated levels of inflammatory serum markers
- absence of HLA-B27 in the presence of sacroiliitis

EXTRAARTICULAR MANIFESTATIONS
Cardiac manifestations

- (IHD)
- (AR) :AR is well characterized and distinguished from aortic valvular dysfunction in other disorders /increased with longer disease duration
- conduction abnormalities

- HLA-B27 may be a genetic risk factor for cardiac conditions

EXTRAARTICULAR MANIFESTATIONS : Pulmonary manifestations

- upper lobe fibrosis, mycetoma formation, cyst formation, and pleural thickening

- usually asymptomatic

- (OSA) :Possible causes of OSA in patients with AS include involvement of the temporomandibular joint and loss of cervical lordosis

EXTRAARTICULAR MANIFESTATIONS :Renal manifestations

- secondary amyloidosis (AA type)
- NSAID nephropathy
- IgA nephropathy
- Nephrolithiasis

EXTRAARTICULAR MANIFESTATIONS : Osteoporosis

- false increases in spinal BMD from ossification, which has led some to recommend the use of quantitative CT over (DEXA)
- Others have suggested that lateral and volumetric DEXA may be more sensitive

- The most recent ACR, Spondyloarthritis Research and Treatment Network, and Spondylitis Association of America guidelines recommend screening all patients with AxSpA with a routine anteroposterior lumbar and hip bone densitometry study based on the prevalence of low bone mass and osteoporosis and the absence of a higher quality, evidence-based screening technique

Spondylodiskitis and spinal fractures

- spondylodiskitis, a destructive diskovertebral lesion also called Andersson lesion
- This is a chronic fracture with development of a pseudoarthrosis
- common in the thoracic and lumbar spine
- tuberculosis can appear radiographically similar to spondylodiskitis related to AS

Spondylodiskitis and spinal fractures

- a fivefold greater odds of sustaining a spinal fracture compared with control participants
- Fractures through the disk space, the weakest point in the ankylosed spine, are most common, with the cervical spine being the most frequently affected region followed by the thoracolumbar junction
- Posteroanterior and lateral radiographs should be obtained in the setting of new, localized spinal pain.67 CT imaging should be pursued if the radiographs do not demonstrate fracture because CT is more sensitive in detecting spinal fractures

ASAS CLASSIFICATION CRITERIA FOR axSpA

In patients with back pain ≥ 3 months and age at onset < 45 years

Sacroiliitis on imaging* plus ≥1 SpA feature†	or	HLA-B27 plus ≥2 other SpA features†

SpA features†:
- Inflammatory back pain
- Arthritis
- Enthesitis (heel)
- Uveitis
- Dactylitis
- Psoriasis
- Crohn disease or ulcerative colitis
- Good response to NSAIDs
- Family history of SpA
- HLA-B27
- Elevated CRP

Sacroiliitis on imaging*:
- Active (acute) inflammation on MRI highly suggestive of sacroiliitis associated with SpA

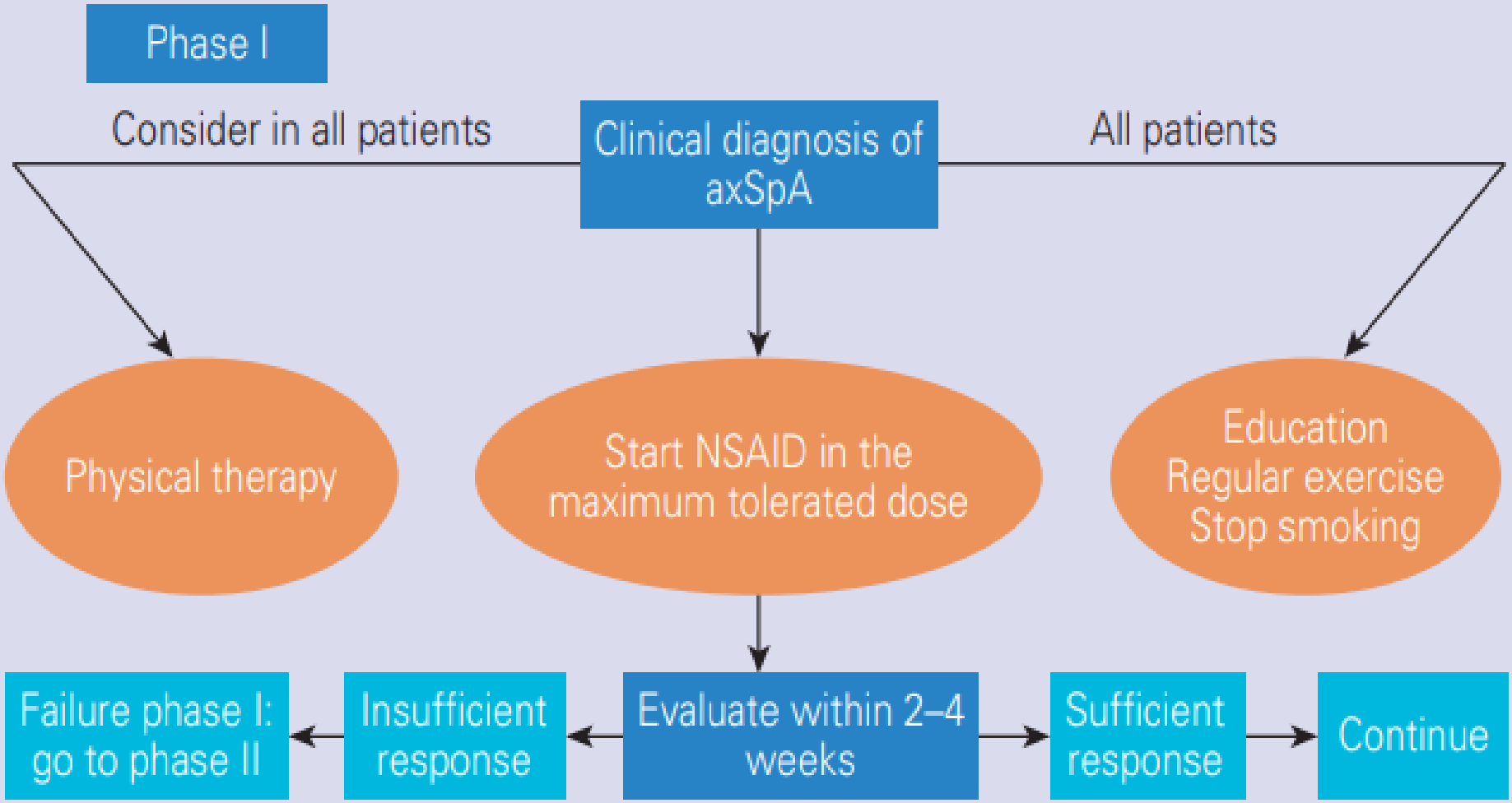
or

- Definite radiographic sacroiliitis according to modified New York criteria

*Sensitivity 82.9%, specificity 84.4%; ***n*** = 649 patients with chronic back pain and age at onset <45 years. Imaging arm (sacroiliitis) alone has a sensitivity of 66.2% and a specificity of 97.3%.

†Elevated CRP is considered an SpA feature in the context of chronic back pain.

ASAS/EULAR 2016 RECOMMENDATIONS FOR THE TREATMENT OF axSpA



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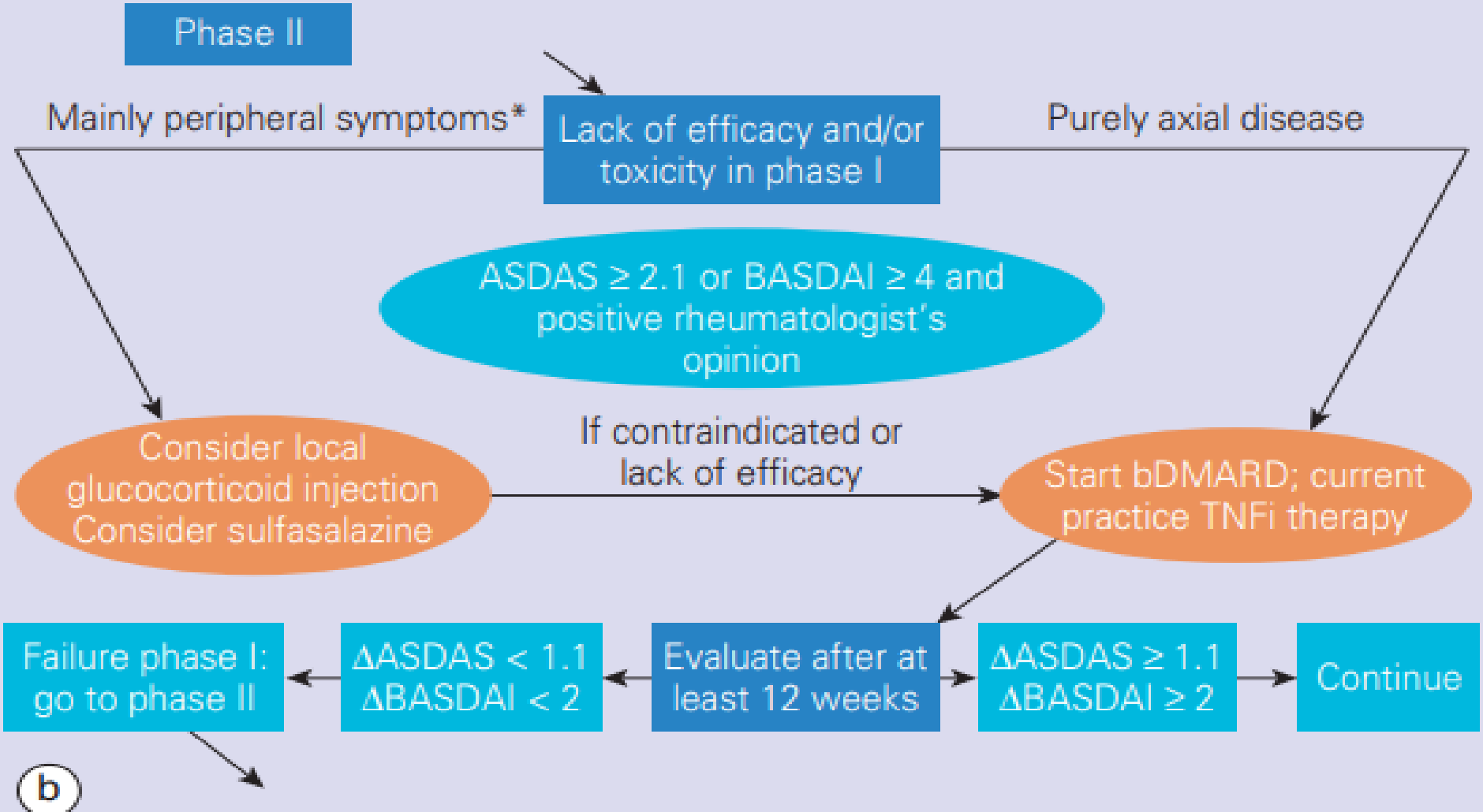

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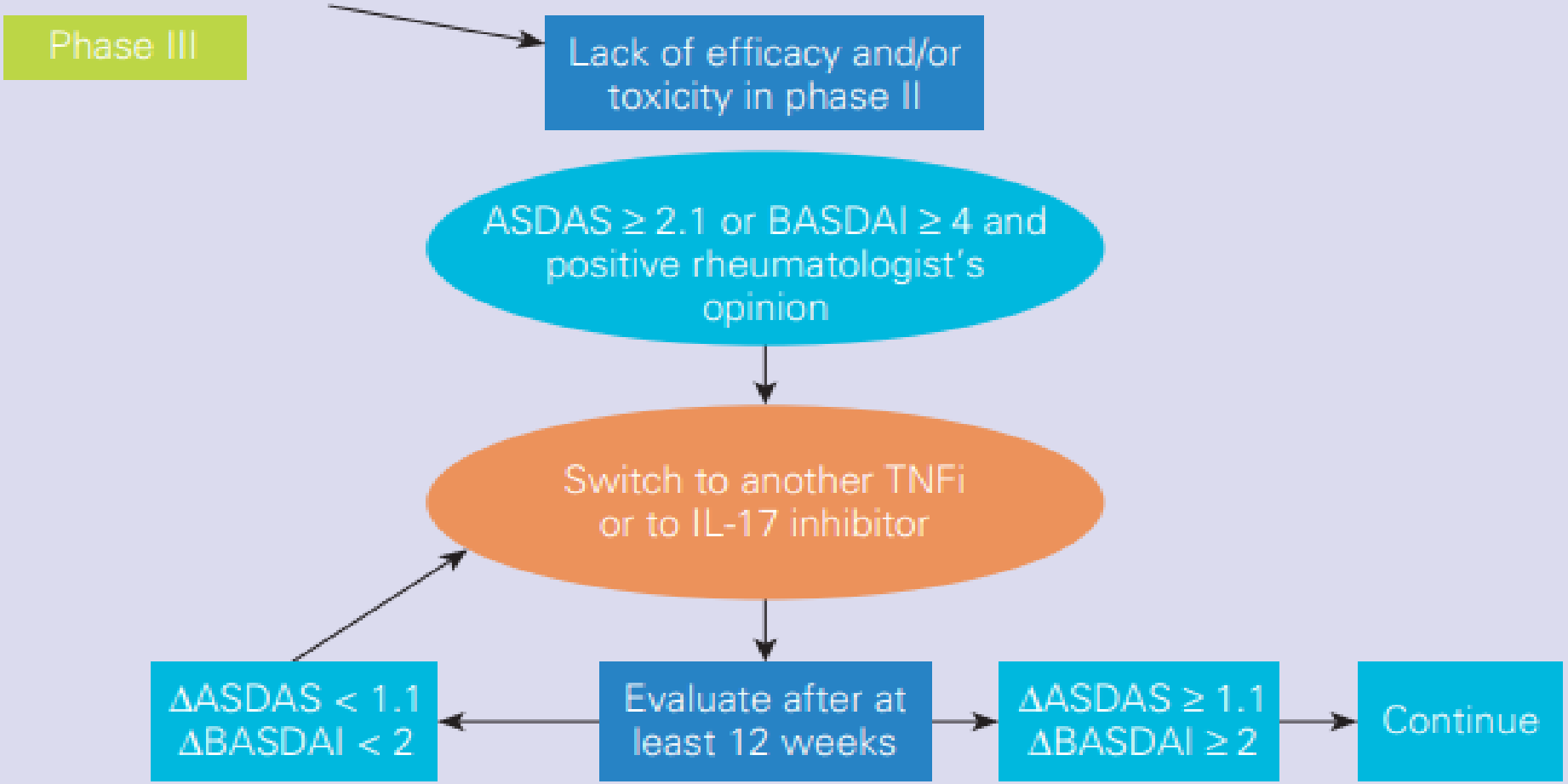

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Fluid-sensitive images showed that the disk space between the 10th and 11th thoracic vertebral bodies (T10 and T11) was filled with fluid, and there was prominent bone marrow edema involving T10 and T11. These findings raised diagnostic concern about the possibility of diskitis–osteomyelitis or fracture with pseudoarthrosis


THANK YOU
FOR YOUR ATTENTION