Physical Therapy Management of Low Back Pain in a Young Female with Ankylosing Spondylitis Associated with HLA-B27 Antigen: A Case Report

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Background
Ankylosing spondylitis (AS): form of arthritis characterized by chronic inflammation of the axial skeletal system that causes back pain and loss of mobility with strong potential for slow, eventual spinal fusion. Affects 0.2-0.5% of the United States population

HLA-B27: genetic component highly correlated with AS. Presence creates inflammatory response at bony attachment sites of tendons, ligaments, and joint capsules.

Presentation can vary widely and may include:
- Intermittent and/or significant back pain and stiffness across multiple body segments for long periods of time
- Peripheral joint involvement
- Chronic inflammatory-related comorbidities

Purpose: Describe a comprehensive approach for physical therapy (PT) management of AS to assist clinical decision reasoning and clinical decision making and enhance care management in this patient population.

Patient Presentation
- 27-year old female patient services representative referred to outpatient therapy
- MRI confirmed medical diagnosis of AS
- Limited active range of motion (AROM): thoraco-lumbar flexion and extension, lumbar lateral flexion and rotation (pain with all)
- Limited strength: hip (all planes, pain), plantarflexors
- Neural assessment: parasthesia to left foot, occasionally to right knee
- Activities of daily living: independent, modified or limited activity when pain significantly increased
- Relieving factors: minimal relief with shifting positions, prescribed medication
- Goals: long term preservation of independent functional mobility, return to recreational activities, minimize need for pain medication

Interventions
- Soft Tissue Mobilization
- Therapeutic Exercise
- Postural Re-education

Modalities
- Neuromuscular Re-education
- Joint Mobilization

Home Exercise Program
- Hamstring stretch
- Lumbar rotations
- Bridge with resisted abduction
- Resisted clam shells

Outcomes

Discussion
- Greatest improvement reported after initiation of Cosentyx and Remicade, immunosuppressant drugs utilized to decrease systemic inflammation.
- Soft tissue mobilization combined with interferential current therapy seemed to provide greatest pain relief during PT
- Goals seemed to provide little insight quantifying patient progress and condition

Limitations: limited evidence available regarding PT management of AS, publication of this case report prior to patient discharge from PT

Future research opportunities: clinical practice guideline, treatment guidelines for active vs. non-active AS

Take home point: This case demonstrated the evolving and ever-changing nature of AS. Collaborative care, pharmaceutical intervention, and patient-centered, symptom-focused intervention seemed to provide greatest benefit for this patient.

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References: