



Crohn's disease in a patient with Ankylosing Spondylitis: A case report

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ABSTRACT

Anti-tumor necrosis factor (TNF) drugs are frequently used today especially in rheumatology and inflammatory bowel diseases (IBD). Sometimes paradoxical side effects develop due to these agents. In the case in this article, Crohn's disease (CD) has developed as an intestinal paradoxical side effect due to the use of anti-TNF in an individual who has been diagnosed with ankylosing spondylitis (AS) since childhood. For this reason, the treatment process was rearranged and nursing care was planned based on Gordon's functional health patterns for the patient who was hospitalized.

Keywords: Ankylosing spondylitis, Crohn's disease, nursing care, paradoxical side effect

1. INTRODUCTION

Ankylosing spondylitis (AS), a common chronic inflammatory rheumatic disease, is the prototype and the most severe form of spondyloarthropathies (Braun et al., 2007; Hanson and Brown, 2017; Say and Ergün, 2019). Usually, nonsteroidal anti-inflammatory drugs are used to minimize joint symptoms (Braun and Sieper, 2004; Popescu et al., 2016). However, when the patient is refractory to nonsteroidal anti-inflammatory drug (NSAID) and conventional DMARD (Disease-modifying antirheumatic drug), spondyloarthropathies should be treated with anti-TNF drugs (Popescu et al., 2016; Braun et al., 2002; Ward et al., 2016; Aydın and Akıncı, 2018). In recent years, some publications have drawn attention to the dermatological, intestinal and ophthalmological paradoxical side effects of anti-TNF drugs. The reason why it is called paradoxical is that they appear after the start of the anti-TNF drugs normally used to treat these conditions (Aydın and Akıncı, 2018; Fouache et al., 2009). In this article, it is mentioned in the nursing care in a patient who developed CD while using adalimumab due to AS.

2. CASE REPORT

Adalimumab (ADA) treatment was started 9 years ago in a 29-year-old male patient, who has been treated with an AS diagnosis since childhood. The patient who did not have any gastrointestinal disease in the family history applied to the emergency department with complaints of severe abdominal pain, bloody diarrhea, weight loss, severe weakness, and fatigue. In the patient whose ADA treatment was discontinued, emergency colonoscopy, MR and DX were performed when weight loss and fatigue increased, and he was referred to the service with suspicion of CD due to fibrotic stenosis in the descending colon (Figure 1a-b).

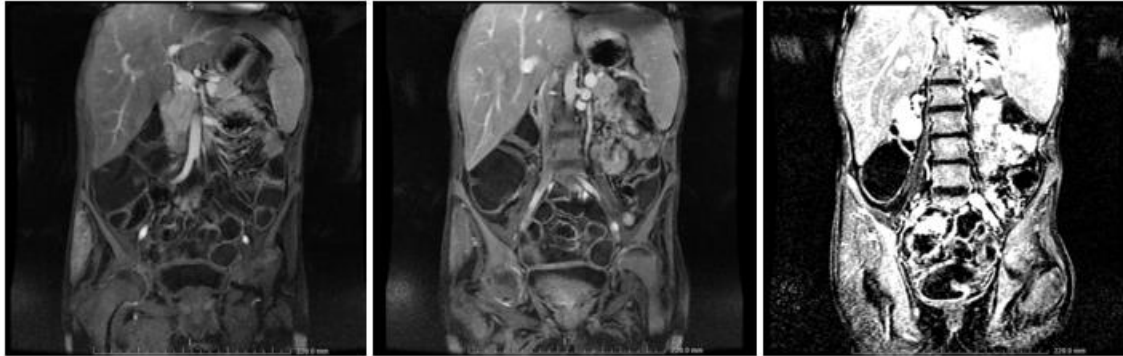


Figure 1a The MR images of patient's.

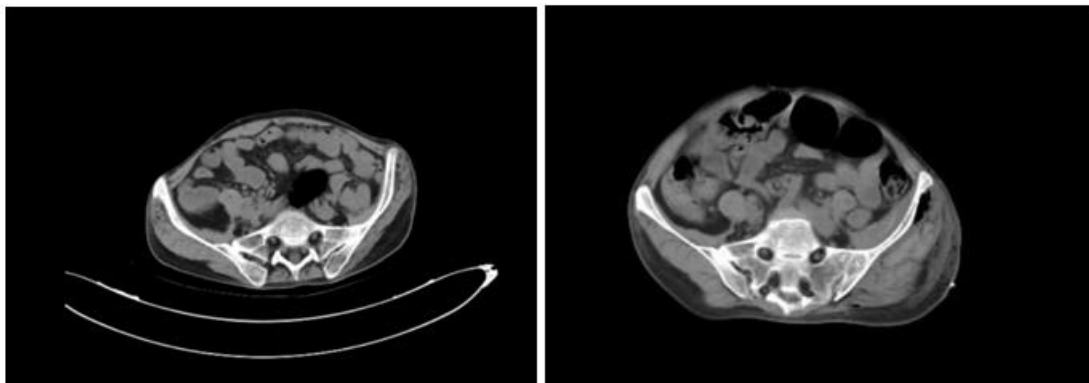


Figure 1b The abdominal CT images of patient's.

The patient who was known to have a familial Mediterranean fever (FMF) and gastritis other than AS, in addition to the existing symptoms, joint pain, nausea, and vomiting were also observed. In the physical examination of the patient whose emergency malnutrition was started, immobilization due to bilateral hip attitude, extension loss in the knee due to inappropriate posture, tenderness in the lower left quadrant and 37.8°C fever were observed. The results of the examinations are as follows; sedimentation: 75 mm / h leukocyte: 8.500 K/ μ L, hemoglobin (Hb): 8.8 g/dL, platelet (PLT): 1564.000 K/ μ L, C-reactive protein (CRP): 22.86 mg/dL (N < 0, 8), total protein: 6.8 g/dL, albumin: 3.3 g/dL, iron: 30 ug/dL, iron binding capacity: 110 ug/dL, ferritin: 437 ug/L. The patient's vital signs were measured as breathing 18 / min, body temperature 37.8°C, blood pressure 109/62 mmHg, pulse 110 / min, and the patient has a 14.5 body mass index (BMI) with 37 kg and 160 cm in height.

Nutritional Risk Screening-2002 which is developed by the European Society of Parenteral and Enteral Nutrition (ESPEN) in 2002 gave score 5 as a result (N < score 3). 1x1 200 ml nutrition support was applied to the patient in addition to applying a calorie diet because he has a low body mass index. Also, the patient was given 1x1 250 mg vitamin B12, 1x1 5 mg folic acid, 1x1 1.25 mg (15 drops) vitamin d supplements. The common treatment plan for the patient's known AS, FMF, gastritis and CD diseases are as follows; 1x1 40 mg pantoprazole, 2x2 500 mg sulfasalazine, 3x1 0.5 mg colchicum, 2x1 750 mg NSAID.

Premedication was performed with 40 mg prednisolone for 3 days to the patient who gave results with PPD: 0 mm. To the risk of developing tuberculosis, 300 mg isoniazid was started 3 weeks before the anti-TNF application was started as a preventive treatment. It was planned to start anti-TNF treatment after discontinuation of steroid therapy. However, due to the development of CD paradoxically during the use of ADA, treatment was planned to continue with infliximab and was discharged by recommending polyclinic control.

Evaluation of the Case According to Gordon's Functional Health Patterns

In his work on nursing diagnoses in 1987, Gordon proposed a perspective called "Functional Health Patterns (FHP)" to gather and organize information with a strong nursing perspective. FHP nursing process, which Gordon defines as the order of behaviors in a certain period of time, emphasizes critical thinking and clinical decision making. FHP has been classified under 11 headings related to human health and life process. These are health perception and health management, nutrition-metabolic status, excretory, activity-exercise, cognitive-perceptual, sleep-rest, self-recognized, role and relationships, sexuality-reproduction, coping-stress tolerance, value-belief patterns (Staub-Müller, 2009; Erdemir and Yilmaz, 2003; Erdemir and Yilmaz, 2003).

When the patient came to the service, he was nervous because of a disease that developed in addition to his existing diseases. Expressing that he did not know about the CD, the patient said that he was anxious and afraid. The patient with cigarette and alcohol consumption, although it is causing a cause for complications for his existing diseases, said that he worked as a courier in a company. Constipation developed in the patient due to limited mobilization, malnutrition, and immobility. The patient has pain which causes multiple drug use, autoimmune disease and gastritis and the pain was measured as 5.5 according to the visual analog scale (VAS). The results of some specific tests applied to the patient because he has AS are as follows; bath ankylosing spondylitis disease activity index (BASDAI) is 5.2 and bath ankylosing spondylitis functional index (BASFI) is 8.1.

Nursing diagnoses and interventions determined according to the factors mentioned above are given in the table (Table 1) (Figure 2).

Table 1 Nursing Diagnoses According to Gordon's FHP

Gordon's FHP Headers	Nursing Diagnosis	Interventions	Results
Health Perception and Health Management	Risk for Falls	<ul style="list-style-type: none"> - Factors that could cause the patient to fall were evaluated. - The risk of falling of the patient was evaluated. - The products that will provide the basic needs of the patient were placed near him. - While the patient was in his bed, the bed edgings were elevated. - The patient was informed about orthostatic hypotension. -The walking area would be checked for security and removed in case of an obstacle. 	The patient did not fall during the care process. The goal has been achieved.
	Ineffectiveness in Maintaining Health	<ul style="list-style-type: none"> - The subjects in which the patient's lack of information, were identified. - The patient was educated on the deficiencies of diseases' information. - The effect of maintaining a healthy diet on autoimmune diseases was mentioned. - It was mentioned that the harmful effects of substance use on health and increase the incidence of complications in diseases. - The patient was informed about the treatment processes. - The patient was encouraged to change his lifestyle (diet, exercise, sleep, and career choice). - The effect of oral hygiene on health and systems was mentioned. 	The patient stated that he would comply with the recommendations given and that he would contact the social health lines in the parts where he had difficulty.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Nutrition-Metabolic Status</p>	<p>Nutritional Imbalance: Less than Required</p>	<ul style="list-style-type: none"> -The daily calorie needs of the patient were determined by discussing with the dietician. -The importance of adequate nutrition was explained. -The individual feeding status of the individual was evaluated. -Foods that increase nausea were determined and fluid intake between foods was restricted. -Small and frequent feeding was recommended. -The importance of preferring high protein foods was explained. - BMI was calculated by daily weight follow-up. -The importance of using the prescribed food supplements when the patient could not meet the required daily calories was explained. 	<p>Weight: 38 kg Length: 160 cm Waist Circumference: 55 cm BMI: 14.84 kg / m² NRS-2002: 4 The patient's condition is stable. The diagnosis continues.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Excretory</p>	<p>Constipation</p>	<ul style="list-style-type: none"> -It was supported by feeding the fiber if there is no obstacle to the patient's diet. - The patient was provided to take at least 2 liters of fluid daily. - The positive effect of drinking a warm glass of water when the patient woke up in the morning was mentioned to him. - Practices that facilitate defecation were taught (gently massaging the abdomen, semi-squatting sitting, etc.). -Told about the importance of exercising to the patient, he was supported to walk during the day. -The patient was followed up for symptoms of vagal stimulation (dizziness, pulse drop). 	<p>The patient's bowel sounds were auscultated as 4 minutes in the upper right, 4 in the upper left, 3 in the lower left, and 4 in the lower right. 100 mg laxative was applied to the patient. The patient was able to defecate. Vagal stimulation was not observed in the process.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Activity-Exercise</p>	<p>Impaired Physical Mobility: Disruption of Walking</p>	<ul style="list-style-type: none"> - Walking problem was evaluated with the support of a physiotherapist. - The patient was trained in safe ambulation. - Safe use of the ambulation aid (like a walker) was ensured and the patient was followed up for correct use. - Support was given to improve the patient's mobilization. - Appropriate interventions were applied to the patient in terms of the risk of falling. 	<p>During the period of care, improvements were observed in the patient's mobilization. Physiotherapist support was provided. New BASDAI score was 3,7 and BASFI score was 6,4.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Cognitive-Perceptual</p>	<p>Deficient Knowledge</p>	<ul style="list-style-type: none"> -The patient was evaluated in terms of learning and concentration capacity. -The best learning method of the patient was 	<p>No problem was detected in the learning level and concentration</p>

		<p>determined.</p> <ul style="list-style-type: none"> -The subjects that the patient is missing and knows incorrectly were determined. - The emotional and cognitive status of the patient for education was planned for the best time. -The patient was informed about new diagnoses (CD), existing chronic diseases (anemia, AS). - Information was given about the specific treatment (anti-TNF drugs) applied to the patient. -It was supported by using brochures in the information given to the patient. -The questions left in the patient's mind were answered. 	<p>capacity of the patient. Goals were achieved as a result of the initiatives. The patient was referred to the training nurse for more detailed training.</p>
	Acute Pain	<ul style="list-style-type: none"> - The cause of the pain was determined and explained to the patient. - The type, spread, and extent of pain were determined. - The patient was observed in terms of physiological pain symptoms. (Tachycardia, sweating, etc.) - Non-pharmacological methods (drawing attention to another direction, entanglement, breathing exercises, reading books, massage, hot/cold application, etc.) were applied by determining the factors that reduce and increase pain. - The patient was given the opportunity to rest during the day. 	<p>Widespread 5.5-throbbing and cramp-type pain in the lower left and upper quadrants. Non-pharmacological methods were applied. (VAS: 4.5) VAS score is 3 after applied analgesic.</p>
Self-Recognized	Fear	<ul style="list-style-type: none"> - The cause of the fear in the patient was determined. - The degree of fear was evaluated. - The questions causing the fear were answered one by one for the patient was relaxed. - The patient will be given the opportunity to express his feelings and encouraged. - Relaxation methods such as deep breathing, meditation, yoga, etc. that can reduce the fear of the patient were taught. 	<p>The level of fear before the training was measured as 6.9 / 10. After the training, the fear level of the patient was measured as 5.4 / 10 with the same questionnaire. The patient's fear which is occurred from the lack of information was removed.</p>
	Fatigue	<ul style="list-style-type: none"> - The degree of the patient's fatigue and the factors causing it were determined. - Patient and patient relatives were informed in terms of energy conservation methods. (Placing things nearby, being able to regulate breathing, 	<p>The patient's fatigue problem continues.</p>

determining the time when it is energetic and doing things at that time, etc.)

- Sleeping was evaluated, daytime sleep was reduced to the patient was supported to have a productive sleep at night.
- During the day, the patient was given the opportunity to rest.
- The patient was helped to define the jobs he could delegate.

* There was no problem in the headings not included in the table.

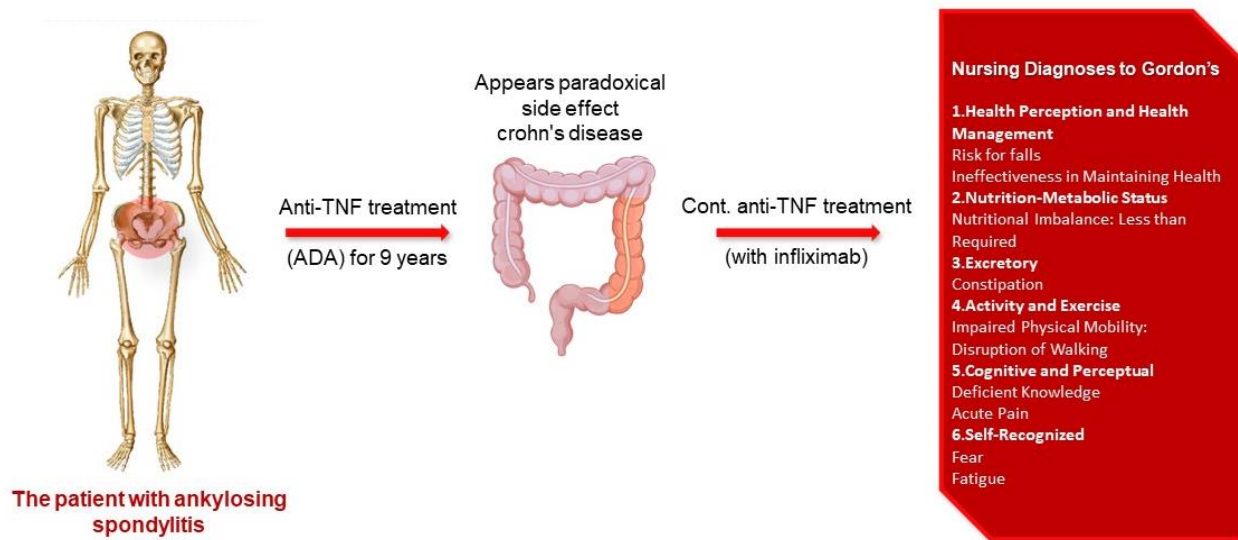


Figure 2 The diagram about treatment and nursing diagnoses for the patient.

3. DISCUSSION

AS is a chronic symmetrical rheumatic disease that primarily involves the sacroiliac joints and spine. Peripheral joint involvement is rare, except for the shoulders and hips. When it is seen, it is usually mild and temporary, and it resolves in most patients without performing joint deformity (Khan, 2003; Hadjicostas et al., 2010). In this case, deformity due to left hip involvement affected the left foot seriously. Apart from this, peripheral involvement was not observed.

IBD are chronic, repetitive, idiopathic and inflammatory diseases. CH is an IBD characterized by inflammation that covers the entire layer of the intestine, usually seen between the ages of 15-30, with a risk of malignancy. Although the exact cause is not known, some factors have an impact on the development of the disease. It can lead to serious complications such as bowel obstruction, fistula and intraabdominal abscesses (Ersoy and Hamzaoğlu, 2013; Pituch-Zdanowska et al., 2015). Both disease groups have their own standard treatment modalities. When the patient is refractory to conventional treatments (like NSAID and DMARD), both diseases can be treated with anti-TNF drugs. Anti-TNF drug treatment is common for patients who have the association of AS and CD is a visible condition (Braun et al., 2002; Ward et al., 2016; Aydın and Akinci, 2018; Hadjicostas et al., 2010; Pituch-Zdanowska et al., 2015).

Rarely, paradoxical side effects may occasionally occur during the use of anti-TNF. These paradoxical conditions include new-onset psoriasis or flare-ups of psoriasis, uveitis, IBD, and development of the aseptic granulomatous diseases such as sarcoidosis (Aydın and Akinci, 2018; Fouache et al., 2009; Toussirot et al., 2012). However, in this case, an individual who has had AS since childhood has a CD developing as a paradoxical side effect after the use of anti-TNF.

4. CONCLUSION

As a result, patients with AS may rarely experience other diseases caused by the disease itself or the side effects of the drugs used. For this reason, other diseases, family histories, and lifestyles of the patients should be carefully screened and the patients should be trained on the effects of lifestyles on the disease. The patient, who is in this case, was discharged mentally and physically in a healthy manner after the treatment that took a long time and required difficult adaptation. It was provided to complete other health education from outside. However, in cases with AS, before any complications or side effects develop, diagnosis and treatment in the early period and supporting exercise programs are very important in terms of contributing to their more qualified lives.

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Conflict of Interest

The author has no conflict of interest to be declared.

Ethical approval

Consent was obtained from the patient according to the Helsinki Informed Consent Form.

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Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Data and materials availability

All data associated with this study are present in the paper.

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