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Parkinson's Disease Unfolding Case Study

Analiza studium przypadku choroby Parkinsona

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Abstract

Young onset Parkinson's disease (YOPD) is defined as idiopathic Parkinson's disease (IPPD) affecting people between the ages of 21 and 40 years old; it makes up approx. 5% of all Parkinson's Disease patients. The quicker onset of motor complications is what makes YOPD different than the later onset of Parkinson's Disease. The quicker onset of the motor complications and progression of the disease are what make this disease have a very high morbidity rate. Technology and research have provided the ability to improve motor complications dramatically and extend the ability to maintain function and live a meaningful life. Due to the specificity of the progression of YOPD, nurses and medical staff need to base the care and treatment of the patient on the patient rather than follow a standard protocol for everyone. The University of California in San Francisco (UCSF) symptom management theory and the theory implication for persons with neurological disorders/diseases can provide the basis on how to effectively develop a care plan for these patients. Nurses can have a significant impact on how the disease can affect the patient on the long-term through education, support and advocacy. This case history documents the course of a YOPD patient with unusually severe motor complications. This case study is presenting a 38-year-old male patient that has developed rhabdomyolysis due to dyskinesia. This article aims to help provide context and information pertaining to the usage of simulations when educating both undergraduate and graduate nursing students. **(JNNN 2021;10(2): 71–76)**

Key Words: case study, early onset, Parkinson's disease

Streszczenie

Choroba Parkinsona o początku w młodym wieku (YOPD) jest definiowana jako idiopatyczna choroba Parkinsona (IPPD) dotykająca ludzi w wieku od 21 do 40 lat; stanowi około 5% wszystkich pacjentów z chorobą Parkinsona. Szybszy początek powikłań ruchowych sprawia, że YOPD różni się od późniejszego wystąpienia choroby Parkinsona. Szybszy początek powikłań ruchowych i progresja choroby sprawiają, że schorzenie to ma bardzo wysoki wskaźnik zachorowalności. Technologia i badania pozwoliły radykalnie poprawić występujące komplikacje ruchowe i wydłużyć zdolność do zachowania funkcji i prowadzenia „sensownego" życia. Ze względu na specyfikę progresji YOPD pielęgniarki i personel medyczny musi dostosować opiekę i leczenie do danego pacjenta, a nie postępować zgodnie ze standardowym protokołem dla wszystkich. Teoria zarządzania objawami i implikacje teoretyczne dla osób z zaburzeniami/chorobami neurologicznymi Uniwersytetu Kalifornijskiego w San Francisco (UCSF) mogą stanowić podstawę skutecznego opracowania planu opieki dla tych pacjentów. Pielęgniarki mogą mieć znaczący wpływ na długofalowe oddziaływanie choroby na pacjenta poprzez edukację, wsparcie i poradnictwo. Przedstawiona historia przypadku dokumentuje przebieg pacjenta z YOPD z niezwykle ciężkimi powikłaniami ruchowymi. Niniejsze studium przypadku przedstawia 38-letniego mężczyznę, u którego rozwinęła się rabdomioliza z powodu dyskinezy. Celem tego artykułu jest przedstawienie kontekstu i informacji dotyczących wykorzystania symulacji podczas kształcenia zarówno studentów studiów licencjackich, jak i magisterskich z zakresu pielęgniarstwa. **(PNN 2021;10(2):71–76)**

Słowa kluczowe: studium przypadku, wczesny początek, choroba Parkinsona

Introduction

Young onset Parkinson's disease (YOPD) is defined as idiopathic Parkinson's disease (IPPD) affecting people between the ages of 21 and 40 years old; it makes up approx. 5% of all Parkinson's Disease patients [1]. The quicker onset of the motor complications and progression of the disease are what make this disease have a very high morbidity rate. Some new surgical option such as deep brain simulator have provided us the ability to improve motor complications dramatically and extend the ability to maintain function and live a meaningful life [2–4]. Due to the specificity of the progression of YOPD, nurses and medical staff need to base the care and treatment of the patient on the patient rather than follow a standard protocol for everyone.

About 10 to 20 percent of people with Parkinson's experience symptoms before age 50, which is called "young-onset" [1]. While treatments are the same, younger people may experience the disease differently. With Parkinson's disease, a combination of both genetic changes and environmental factors likely contribute to the development of the disease. In younger generations, especially those who have multiple family members with Parkinson's, genetics may play a larger role [5]. Certain genetic mutations (in the PRKN gene, for example) are associated with an increased risk of YOPD. For patients with YOPD (and particularly if there is a family history of Parkinson's), should consider genetic testing to see if they carry one of these mutations [1,5]. This case study presents a case of a YOPD patient with unusually severe motor complications.

The following case study presents a 38 year old male, Ted V. (TV). TV was diagnosed with Early Onset Parkinson's Disease at age 32, and originally presented with severe motor complications. His dysgenesis was so severe that he developed rhabdomyolysis due to the dyskinesia he had. Two weeks ago he underwent a deep brain simulator implantation and his Parkinsonian symptoms have improved drastically from his baseline. The study was delivered in a video format.

The client's past medial history includes: Early Onset of Parkinson's Disease at age 32 with, rhabdomyolysis due to dyskinesia, Implanted Deep brain stimulator, no know allergies and client is a DNR/DNI.

The patient is a 38 year old male that has developed rhabdomyolysis due to severe dyskinesia. This study was developed for undergraduate nursing students and was designed to develop and enhance the student's knowledge about YOPD based on applying critical thinking and answering the unfolding questions. The students were encouraged to develop a care plan for this patient based on the University of California in San Francisco (UCSF) symptom management theory and theory implication for persons with neurological disorders/diseases [6]. Unfolding case studies as a teaching strategy have been proven to be an effective teaching modality for undergraduate and graduate nursing students [7,8].

Case Study Data Presented to the Undergraduate Nursing Student

This is a post op nursing home visit. Patient lab results at discharge were: Creatine kinase (CK) 120 U/L (units per liter), Creatinine: 1.3 mg/dL, Magnesium: 2 mEq/L, Sodium: 140 mmol/L, Potassium: 4.5 mmol/L, H&H: 13.5 g/dL & 40%, Platelets: 150, Blood urea nitrogen: 8 mg/dL. Urinalysis — negative, EKG — normal sinus.

What labs would you expect to be abnormal if TV would have Rhabdomyolysis?

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What is Rhabdomyolysis?

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What are the signs and symptoms of Rhabdomyolysis?

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What is the cause of Rhabdomyolysis in YOPD patients?

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During today's visit:

TV is alert and orient ×3 and in good spirits. He is experiencing occasional resting tremors of the left forearm, which is a little more evident when he gets excited. He ambulates independently but experiences bradykinesia and freezing gait. TV has difficulty when he was asked to take a small walk. He also complains of dystonia in his hands and feet. The client's dyskinesia appears to be well controlled. TV states: "This stimulator in my brain is amazing, my unintended, involuntary and uncontrollable movements are so much lesser!". He denies swallowing difficulties. The client's incision is clean and dry with 32 staples that are dry and intact.

Do all patient's with Parkinson's Disease qualify for deep brain stimulation? Explain.

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Describe the surgery and the education for the patient prior to the surgery and what assessments would you focus on before and after the surgery of the DBS implantation?

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Current VS are BP 122/80 P:reg 74, Resp 18, temp 97.9F, pain 3/10.

What questions would you ask to assess his pain further?

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What recommendations can you give to the patient to help manage his pain?

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TV lives alone in the second-floor apartment.

He does not have family support as he was raised by his grandfather who passed away last year.

He is in relationship and his girlfriend helps him as much as possible, but she is active military and is deployed often. He denies depression but states: "Sometimes I feel anxious before I meet my girlfriend. I am afraid that she will leave me since I have difficulties during intimate situations". He says he is mostly in good spirits. He inquiries about medications for erectile dysfunction as he currently has difficulty with his sexual desire and complains of low libido.

What resources are available for Parkinson's patients in your community?

a. Local resources: .....
b. State and federal resources: .....
c. Virtual/internet resources: .....

Give examples of individual level of prevention for the following:

a. Primary level of prevention .....
b. Secondary level of prevention .....
c. Tertiary level of prevention .....

Give an example for each of the following population levels of prevention:

a. Primary level of prevention .....
b. Secondary level of prevention .....
c. Tertiary level of prevention .....

Provide three nursing interventions to address the holistic client care needs:

1. .....
2. .....
3. .....

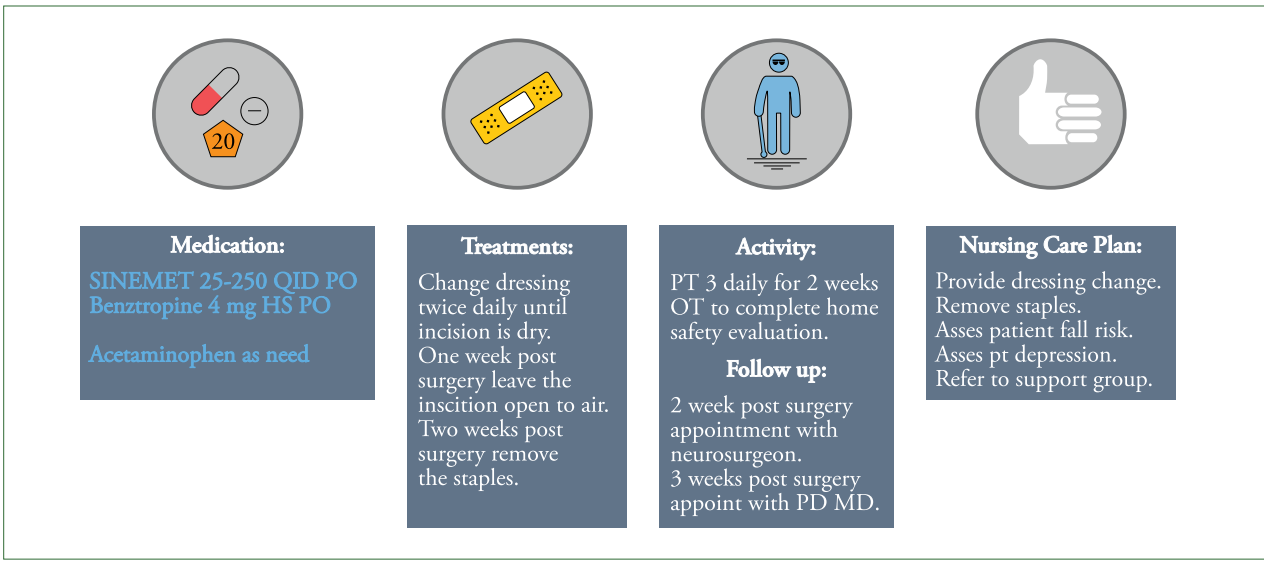

Figure 1. Current Care Plan
Source: Own research

What is the current evidence-based recommendations for additional complementary treatments for symptom management for Parkinson's Patients?

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2. .....
3. .....

Case Study for Graduate Nursing Student

This is a post telehealth visit with nurse practitioner.

Patient lab results at discharge were: Creatine kinase (CK) 120 U/L (units per liter), Creatinine: 1.3 mg/dL, Magnesium: 2 mEq/L, Sodium: 140 mmol/L, Potassium: 4.5 mmol/L, H&H: 13.5 g/dL & 40%, Platelets: 150, Blood urea nitrogen: 8 mg/dL. Urinalysis — negative, EKG — normal sinus.

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What is Rhabdomyolysis?

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What are the signs and symptoms of Rhabdomyolysis?

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What is the cause of Rhabdomyolysis in Parkinson's patients?

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TV is alert and orient ×3 and in good spirits.

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What questions would you ask to assess his pain further?

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As a nurse practitioner what medication could be prescribed for management of patient pain?

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What are some evidence based complementary therapies that as a nurse practitioner you could suggest to this client or who would you refer this patient to?

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TV lives alone in the second-floor apartment.

He does not have family as he was raised by his grandfather who passed away last year.

He is in relationship and his girlfriend helps him as much as possible, but she is active military and is deployed often. He denies depression but sometimes he states: "Sometimes I feel anxiety before I meet my girlfriend. I am afraid that she will leave me since I have difficulties during intimate situations". He says he is mostly in good spirits. He inquiries about medications for erectile dysfunction as he currently has difficulty with his sexual desire and complains of low libido.

What screening could we use to assess patient depression?

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What screening could we use to assess patient anxiety?

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What potential treatments (medication, therapies and alternative describe one example of each) and intervention and as an advanced practice nurse what medication would you prescribe to treat patient depression? Explain your rationale.

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What potential treatments (medication, therapies and alternative describe one example of each) and intervention and as advanced practice nurse could you suggest for treating patient anxiety? Explain your rationale.

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As a nurse practitioner what medication could be prescribed for management of erectile dysfunction? Explain your rationale.

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What resources are available for Parkinson's patients in your practice setting?

a. Local resources: .....
b. State and federal resources: .....
c. Virtual/internet resources: .....

What further symptom management options would you suggest?

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Conclusions

As presented in this article, the usage of case studies can be beneficial for both undergraduate as well as graduate nursing students together. It can present a realistic view of a patient while incorporating real-life changes in the disease process allowing the nursing student to integrate some critical thinking skills into the active changes that are happening with the patient and allow them to change their thinking processes as the patient's disease process changes. The client's case study can be changed to accommodate new processes, research or treatments that are developed as well as changed towards the student's knowledge level or class it is presented within.

Implications for Nursing Practice

This study was developed for undergraduate students and aims to develop and broaden the student's knowledge of YOPD based on critical thinking and answering emerging questions. Case studies combine the theoretical findings of a given field of knowledge with the practice of everyday life, which often verifies or falsifies these theoretical findings. It is precisely in this way to show the strong relationship between theory and practice and to make the student aware that also in everyday situations, one can and should be supported by the knowledge acquired from the walls of the university, is to be used by conducting didactic classes using the case study method. Unfolding case studies as a teaching strategy have been proven to be an effective teaching modality for undergraduate and graduate nursing students.

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