**The Effectiveness of Procrit Injection in the Elderly Patients**

**LITERATURE REVIEW**

The human body produces erythropoietin from the kidneys which are responsible for the production of the red blood cells in the bone marrow. The kidney produces erythropoietin and sends it to the bone marrow to facilitate the production of the red blood cells. In cases where one suffers from chronic kidney diseases, the production of erythropoietin is hindered and the body runs deficient of red blood cells (Cortesi, et al. (2004).  The lack of red blood cells that results from the inability of the kidney to produce the erythropoietin leads to anemic conditions. The injection of the Procrit into the body intends to facilitate the production of the red blood cells and contribute to the healing process during and after cancer, anemia and HIV surgeries (Hecht & Boujoukos, 2010). Surgeries may cause anemia in the situation that the body is deprived of epoetin and the injection of Procrit will prevent and cure the body from contracting the condition.

The clinical use of the erythropoietin has existed for over 25 years since 1993 (Agarwal & Prchal, 2008). Presently, there are three different types of erythropoietin used for clinical purposes. These include epoetin beta, epoetin alfa also referred to as Procrit and darbepoetin alfa. The injection of the Procrit in elderly patients has been among the other uses in the clinical field. The responses of the elderly patients to the injection of the Procrit has been under debates following the examined cases of slow and poor responses. In almost over 80% cases of applying the Procrit, in the elderly patients and those patients with chronic kidney diseases have proved to be successful. The injection of Procrit to elderly patients has been successful in treating anemia. The injections of this kind of erythropoietin are to aid in undertaking surgeries where large quantities of blood transfusions are involved in the process. Procrit is applied in this process to treat anemia which is common in patients with chronic kidney conditions and which is often associated with zidovudine and the HIV patients.

The application of the erythropoietin which is a hormone to influence and cause the formation of the red blood cells in the body has had wide usage in the clinical treatment of the critically ill patients. The elderly patients can be compared with those in the ICU for their slow or lack of erythropoietin production in the body. The body requires the erythropoietic agents to facilitate the red blood cells production and development of a stronger immune to facilitate the survival of a patient after surgery or any other condition. The erythropoietic agents facilitate the process of erythropoiesis in the body (Cortesi, et al. (2004). Over the years, the elderly patients have been considered to stand slim chances of surviving cancer or anemic surgeries that require stronger immune with large quantities of red blood cells in the body. In the aging individuals, anemia is common and the application of the erythropoietin is considered to facilitate the regeneration of the neural components in the body. To this extent, the use of erythropoietic agents helps in building the elderly patient’s immune system.

According to Corwin, H. L., et al. (2007), the injection of Procrit to the critically ill patients may not effectively cure anemia for those patients in the ICU. The red blood transfusions for the patients in the ICU is frequent and is yet to provide adequate consideration to treat the anemic conditions (Corwin, et al. 2007). The effectiveness of Procrit injection in elderly patients is only evident in cases of anemia and kidney complication. The critically ill patients in the ICU experience very low concentrations of red blood cells as hemoglobin concentrations fall throughout the period in the Intensive Care Unit. The impaired production of the red blood cells leads to continuous anemic conditions. The injection of the Procrit facilitates the production of the red blood cells in this case and thus treating anemia. The administration of epoetin alfa increases the concentration of hemoglobin in the case that the concentrations are lowered due to the lack of erythropoietic agents in the body (Kurtz, et al. 2016). The ability to increase the concentrations of hemoglobin in the body of the critically ill elderly patients prevents the body from the incidences of anemia and consequently reducing the need to expose the body to allogenic blood samples. To this extent, the injection of Procrit is highly effective in elderly patients.

To whether the injection of Procrit and any other erythropoietin contributes to the development and regeneration of the neural components and nervous system, is debatable. From the several types of research undertaken, the injection of the Procrit and other erythropoietin has limited influence if no contribution to the regeneration of the nervous system (Agarwal & Prchal, 2008). The ability of Procrit to enhance the survival of elderly patients, especially those under the ICU is not solely accredited. The elderly patients undertaking treatment in the ICU and injected with Procrit have not exhibited chances of survival. Their survival is based on the use of other drug elements. The experiments on whether Procrit injection enhances survival in the elderly patients is yet to be tested as there are variances in information and experimental contexts on the available information which cover on undertaking such experiments in other animals such as the mouse (Hecht & Boujoukos, 2010). With the present research and experiments, it is evidenced that the injection of Procrit does not enhance or contribute to the survival of the critically ill elderly patients.

According to Agarwal & Prchal (2008), the injection of Procrit in the elderly patients has almost no effect on neuroprotection as there are limited knowledge and documents to prove the subject. The effectiveness of Procrit injection to the treatment of cancer in the elderly patients is very low. For patients suffering from diverse cancers have indicated low capacities of survival when exposed to Procrit. The injection of Procrit to elderly patients suffering from cancer exposes the patients to more severe conditions and with reduced survival capacities (Kurtz, et al. 2016). The introduction of Procrit through the injection increases the iron elements in the body thereby exposing the patients to enhanced tumor growths. Procrit, being an element of erythropoietin contain iron components that when introduced into the body with cancer tumors increase the growth of the tumors (Hecht & Boujoukos, 2010). To this end, the injection of Procrit to elder cancer patients worsens their conditions while reducing their survival chances and therefore not effective at all. It is therefore important to investigate the effectiveness of Procrit injection into elderly patients while considering the diseases that the patients suffer from and examining the illness condition of the patients.

**3.0 RESEARCH METHODOLOGY**

**3.1 Overview of Research Methodology**

The purpose of this chapter is to present well-investigated facts and philosophies that underpin the processes and outcomes of the research study. The methodology addresses the central questions of the study by identifying the study area, participants, sampling method, the research design, data collection methods, and ethical considerations during the research

**3.2 Study Area/ Setting**

The researchers will identify one medical facility and conduct the research in that particular setting. The medical facility must be within a city to provide the experts with the required number of participants. In the town based facilities, the number of patients is higher than those in low population areas, thus making it easy to identify the participants.

**3.3 Participants in the Research**

The research will involve the elderly patients. In the hospitals, the researchers will identify 20 elderly patients. The number of participants will be limited to 20 due to the difficulty of identifying more elderly patients within a specific facility. The families of elderly patients are often skeptical with their elderly family members participating in research that is experimental in nature.

**3.4 Sampling Methods**

The study will apply multistage random sampling technique so as to involve elderly patients with different medical backgrounds and conditions. First the hospital will be chosen from a specific region and secondly, the participants will be selected. The doctors and nurses in charge of the patients will be notified of the research prior to the occasion and relevant sources of literature on the patients be identified.

**3.5 Research Design**

The study will use mixed methods where the scientific study design by identifying the independent and dependent variables in the research process. In this study, the independent variable is the injection of Procrit, while the dependent variables include treatment of cancer, anemia and survival chances after surgery. The application of the erythropoietic agent, in this case, Procrit is independent of the outcomes of the research while the outcomes of the study such as the ability to survive to depend on the injection of Procrit. The study will also adopt the qualitative research design to acquire information from the doctors, nurses and family members.

**3.6 Data Collection Methods**

The researchers will collect data through structured questionnaires for the nurses, doctors and family members while acquiring information through experimentation results from the hospitals.

**3.7 Ethical Considerations**

The researchers will ensure that the information acquired from the participants remain confidential. The researchers will acquire the consent of the family members of caregivers in order to involve the participants in the study. The researcher will be honesty in recording and displaying of information acquired from the research. The researchers will undertake activities that are not agreed on with the participants and those who stand in for them.

**References**

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