The Signs And Symptoms Of Asthma

Posted on October 2, 2019

Introduction

The case study in the slide talks about the medical condition of a five-year-old girl, Jessica. After going through the process of diagnosis, Jessica is reported to be suffering from an asthma condition. This paper will focus on asthma, its signs, and its symptoms. Apart from that, the essay will outline how the two drugs, Salbutamol and Prednisolone, work in the body to fight asthma, according to Adams and Urban (2015, p.25).

Asthma is a respiratory disorder that attacks the paths followed by air to and from the lungs, according to Allan et al. (2015, p.567). Asthma disease causes inflammation and swelling of air paths. When these airways swell, the trails become narrower, and little air can get their way to the lungs. The air paths become highly allergic and sensitive. In the case of Jessica, the disease might have been caused by exposure to some respiratory defects, inhalation of airborne and cold infection. Asthma attack has severe defects in children of age five (Breuer et al.2015, p.420). It causes interference with routine activities such as sleep, school, and playing. The child always becomes bored and inactive. There are some common signs of asthma in children, which include:

a) Breath shortness at all times.

b) The child frequently feels pain in the chest.

c) When breathing out, the child produces a whistling sound at all times.

d) The child thinks that his or her chest is tight and congested.

e) There is frequent coughing, which is uncontrollable.

f) The child develops complications and cannot play with others because of shortness of breath.

g) The constant coughing makes the child lack enough sleep.

h) There is the worst respiratory infection in the child's body.

The causes of asthma vary, but in the case of Jessica, the most important thing that may cause asthma is the drug lifestyle of her parents (Busse et al.2015, p.67). When a child is exposed to tobacco smoke, he or she frequently breathes in the smoke, and this results in an asthma attack. However, there are some other common causes, such as:

a. Exposing the child to some environmental factors such as air pollution.

b. Inheriting some traits from the parents.

c. Changes in the weather conditions or just exposure to cold air lead to the asthma attack.

d. Attack by airborne diseases at a very tender age.

e. History of attack by asthma in the family.

The signs and symptoms of asthma at the childhood stage usually develop into adult life. Unfortunately, there is no treatment for asthma; however, when the patient gets proper management and day-to-day treatment, the child can survive for a more extended period, according to Fonseca (2017, p.36). This paper is going to outline how the two drugs, Salbutamol and Prednisolone, help in the treatment and management of asthma. Pharmacology is a branch of medicine that deals with the study of how drugs function in one's body. Every medication that people take has effects, and even some results may be harmful due to excessive consumption. Pharmacology focuses on how to improve the life of the individual by discovering new drugs that fight diseases such as asthma and cancer (Giovannini-Chami et al.205 p.58).

Salbutamol Drug

Salbutamol is a drug that falls under the category of bronchodilator medicine (Lunenburg et al. 2015, p.800). It belongs to B2-adrenergic agonists. Salbutamol is used in the treatment of chronic bronchitis and asthma, together with many other breathing infections (Kaiser et al.2016, p.46). When this drug is inhaled, it prevents the occurrence of asthma in the body that comes from exercise. There is a specific way in which this drug operates in the human body. The drug gets into the air paths located in the lungs and stretches the muscles found in the walls of these airways. As stated earlier on, the effects of asthma make the air paths narrower, thus preventing maximum passage of air. The salbutamol drugs try to correct this defect by relaxing the tight muscles in the walls of the airways.

The drug always comes in an isotonic solution form, and the doctor is the one who recommends the best dose to the patient. This is according to Karch and Karch (2016, p.48). The patient should not start taking the drug without consulting the doctor. There are ways to apply this medication. Each form of salbutamol drug is used for a specific age group. Another thing that depends on the dosage is how severe the pain is. For instance, the aerosol inhaler is a type of dose used to counter one or two inhalations, usually referred to as puffs. The aerosol inhaler is mostly recommended for patients of twelve years of age and above. On the other hand, children between six years and eleven years can take one puff of the drug. The doctor making the diagnosis may recommend more winds depending on how severe the asthma disease has reached.

Every day may also defer according to the age of the patients. As the children of four and above consume four puffs a day, the adults of twelve years and above may take up to eight whiffs in a day. The inhaler is also recommended before going for an exercise. Individuals who have asthma usually

develop difficulty in breathing when taking part in the activity. The children should bring one puff as the adult can take up to two winds to prevent shortening of breath. The other type of salbutamol drug is the nebulizer solution. It always comes in the milligram. The adults of twelve years consume 3.0mg to 6.0mg, four times a day while the children between five to twelve years consume only 3.0mg in a day.

On the other hand, there is another type of dose to control the signs and symptoms of asthma, which is referred to as diskus. It is taken through inhalation. Children may inhale one puff as the adults survive with four winds. Some factors determine the type of medication the patient undertakes. These factors include medical conditions and body weight, among other factors. According to these factors, it is good for one to seek the doctor's advice before taking any dose. However, there are some other common side effects when taking this drug. These side effects include faster heartbeat, dizziness, headache, nervousness, fatigue, nausea, weakness, coughing, irritated throat, and restlessness. These signs are common even when the patient takes the correct amount of the dose. If the patient sees other symptoms apart from the above, he or she should report to the doctor for action.

Other health conditions may complicate one's body when he or she is taking the drug. For instance, if one is suffering from diabetes. Taking salbutamol leads to an increase in sugar in the blood. It is vital that you discuss your condition with the doctor before taking any drug. Secondly, patients having heart problems may have some difficulty while consuming this drug. The drug may lead to some health problems for people suffering from high blood pressure, among other heart diseases. Women who are either pregnant or breastfeeding should consult the doctor before taking salbutamol, as it may lead to severe complications for the unborn child. The other precautions while taking these drugs are when you are allergic to various ingredients of medicine, do not make the drug. The children should be guided while consuming the drug, and most importantly, there is still no prescribed salbutamol for children below the age of four years.

Prednisolone

Prednisolone refers to the oral steroid that helps curb the movement of essential substances from the body, leading to inflammation (Katsunuma et al.2015, p.278). This steroid is used to control many defects, including ulcerative colitis, arthritis, and psoriasis, among other disorders. The drug also deals with allergic diseases and any other complications that may affect the lungs, king or blood cells, according to Liechti (2015, p.468). On many occasions, the medication is recommended when the signs and symptoms of asthma persist. Unlike salbutamol drug, which is mainly inhalant, prednisolone is oral. When this drug is consumed in the mouth, it is directed to the blood cells. The inhalants usually go to the lungs while this steroid moves into the bloodstream. Other drugs accompany prednisolone in the fight against severe signs caused by asthma.

The amount of drug that the patient takes depends on how severe the asthma is with the patient, according to Mega and Simon (2015, p. 584). For instance, at the beginning of the dose, the patient

may consume a high amount to reduce the effects of the disorder on the body. However, as the time goes, the amount of steroid that the patient takes reduces. When considering the drug, stick to the instructions the doctor prescribes. The patient is always provided with a syringe to measure the amount of drug every time he or she consumes. Every medicine has the side effects. There are some changes that the patient will always observe the body while taking this drug. The results include headaches, weakness in the muscles, dizziness, and swelling of the ankles or hands. The swelling of hands comes because of the retention of fluid in those parts (Looijmans-Van den Akker et al.2016).

However, there are some effects that when the patient observes the body, he or she needs to seek the advice of the doctor. The results include changes in the way someone thinks, the occurrence of wounds in the body that do not heal quickly, feeling pain in the upper part of the stomach, running out of breath, and the last issue is abnormal weight gain, according to Platts-Mills and Woodfolk(2017, p.72). In addition to that, some situations may not cope with the drug. For instance, the homemade medicines, the medicine bought over the counter and vitamins. When consumption of the above things happens, one should inform his or her doctor to ensure that any complications are dealt with at the correct time. There are other cautions that the patient should take into account before making medicine. The first thing is that the patient should not be allergic to the drug. Secondly, in the case the person was suffering from a fungal infection, the defects should heal entirely before taking this drug. Lastly, the patient should inform the doctor of any disease he or she might have been suffering from to enable correct prescription (Ortega et al. 2014, p.89).

The above asthma medication is only best when they are not misused; however, there are several situations where the patient misuses the drugs. Misuse can be through overdosing or underdosing. The case of abuse is typical in the younger ages, and there are ways to detect when your child has misused the drug. For instance, when you observe worsening signs in your child’s body, it is evident that there is a misuse of the drugs. When the patient takes drugs such as salbutamol more than twenty times a day, the situation gives room for attack by other diseases.

The lungs are the ones that attack mostly; they can even fail due to more expansion. Another side effect of the misuse of asthma drugs in children is going through the inhalers more quickly than the usual circumstance, according to Stringer (2017, p.87). The last sign is that your child may be requesting you to buy more asthma drugs than usual. Parents need to be keen to monitor their children during the mediation process. Besides that, awareness is essential to the parents, teachers, and children on how to deal with asthma medication. When the child consumes more drugs, the reason may be that he or she is unaware of possible complications that come because of the misuse. Teachers, on the other hand, should teach the children about the dangers associated with sharing these drugs. Prevention is better than cure, and that is the reason why education is inevitable.

There are various ways to prevent your child from being exposed to asthma. The first step is that you should not allow your child to spend on the smoking zine. Exposure to smoke leads to asthma attacks. Apparently, that is what may have caused asthma in Jessica’s case. It is good that she has gone to stay with her grandmother. The second way is to maintain going to checkups. Even when your child is

attacked, the situation of asthma changes with time, and one needs to visit the doctor frequently. Educate your child to maintain physical exercise that will help keep the respiratory system's condition. Lastly, other environmental factors may make your child contact with asthma. Ensure that you limit your child to such areas to avoid asthma.

References

Adams, M.P. and Urban, C., 2015. *Pharmacology: Connection to Nursing*. Pearson Education.

Allan, K.M., Prabhu, N., Craig, L.C., McNeill, G., Kirby, B., McLay, J., Helms, P.J., Ayres, J.G., Seaton, A., Turner, S.W. and Devereux, G., 2015. Maternal vitamin D and E intakes during pregnancy are associated with asthma in children. *European Respiratory Journal*, *45*(4), pp.1027-1036.

Breuer, O., Shoseyov, D., Kerem, E. and Brooks, R., 2015. Implementation of a Policy Change: Replacement of Nebulizers by Spacers for the Treatment of Asthma in Children. *The Israel Medical Association journal: IMAJ*, *17*(7), pp.421-424.

Busse, W.W., Haselkorn, T., Rosén, K., Trzaskoma, B.L., Ortiz, B. and Szefler, S.J., 2018. Greater Treatment Benefit with Omalizumab in Children with Increased Asthma Severity: Exploratory Analyses from the Inner-City Anti-IgE Therapy for Asthma (ICATA) Study. *Journal of Allergy and Clinical Immunology*, *141*(2), p.AB14.

Fonseca, R.J., 2017. *Oral and Maxillofacial Surgery-E-Book: 3-Volume Set*. Elsevier Health Sciences.

Giovannini-Chami, L., Albertini, M., Scheinmann, P. and de Blic, J., 2015. New insights into the treatment of severe asthma in children. *Paediatric respiratory reviews*, *16*(3), pp.167-173.

ijnenburg, M.W., Baraldi, E., Brand, P.L., Carlsen, K.H., Eber, E., Frischer, T., Hedlin, G., Kulkarni, N., Lex, C., Mäkelä, M.J. and Mantzouranis, E., 2015. Monitoring asthma in children. *European Respiratory Journal*, pp.ERJ-00888.

Kaiser, S.V., Huynh, T., Bacharier, L.B., Parkin, P., Rosenthal, J., Bakel, L. and Cabana, M.D., 2016. B51 PEDIATRIC ASTHMA: EVALUATION AND TREATMENT: Preventing Severe Exacerbations In Preschool Children With Recurrent Wheeze: A Systematic Review And Meta-Analysis. *American Journal of Respiratory and Critical Care Medicine*, *193*, p.1.

Karch, A.M. and Karch, 2016. *Focus on nursing pharmacology*. Lippincott Williams & Wilkins.

Katsunuma, T., Maekawa, T., Akashi, K.I., Fujisawa, T., Ohya, Y., Hashimoto, K., Adachi, Y., Oba, M.S., Sako, M., Nakamura, H. and Ohashi, Y., 2015. Efficacy and safety of isoproterenol continuous inhalation treatment for acute severe exacerbation of asthma in children; a randomized, double-blind controlled study.

Liechti, M.E., 2015. Novel psychoactive substances (designer drugs): overview and pharmacology of modulators of monoamine signalling. *Swiss medical weekly*, *145*, p.w14043.

Looijmans-Van den Akker, I., van Luijn, K. and Verheij, T., 2016. Overdiagnosis of asthma in children in primary care: a retrospective analysis. *Br J Gen Pract*, *66*(644), pp.e152-e157.

Mega, J.L. and Simon, T., 2015. Pharmacology of antithrombotic drugs: an assessment of oral antiplatelet and anticoagulant treatments. *The Lancet*, *386*(9990), pp.281-291.

Ortega, H.G., Liu, M.C., Pavord, I.D., Brusselle, G.G., FitzGerald, J.M., Chetta, A., Humbert, M., Katz, L.E., Keene, O.N., Yancey, S.W. and Chanez, P., 2014. Mepolizumab treatment in patients with severe eosinophilic asthma. *New England Journal of Medicine*, *371*(13), pp.1198-1207.

Platts-Mills, T.A. and Woodfolk, J.A., 2017. Mite Avoidance as a Logical Treatment for Severe Asthma in Childhood. Why Not?.

Stringer, J.L., 2017. *Basic Concepts in Pharmacology: What You Need to Know for Each Drug Class*. McGraw Hill Professional.