Assessment Task 5 Case Study Two

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**Case Study 1 – Integumentary, Endocrine, and neurovascular disorders**

The cause study reveals a health condition of a 72-year-old male Percy Jonas who is having leg ulcer and unequal blood glucose level.

**1-Diabetes Type 2:**

This is the most commonly occurring type of diabetes and 90 percent of the diabetic cases have been identified with diabetes type 2. It is caused by insulin resistance in which the body is not able to fully respond to insulin and the glucose level in the blood keeps rising that lead to the release of more insulin. This high level of insulin exhaust pancreas for some people, it forces the body to release less insulin and thus blood sugar level increases, a condition called hyperglycemia. The complications of diabetes type 2 cause cardiovascular diseases; it weakens the visual acuity and the amputations of a limb. It also leads to end-stage renal disease (Tuomilehto et al., 2001).

**2-The relationship between Percy’s leg ulcer and Diabetes Type 2:**

Leg ulcer refers to the breakdown of skin usually on the lower part of the leg and when the blood glucose level is very high then the healing process normally delays due to the malfunctioning of nerves in a diabetic patient. The nerves that carry a message to the brain from the affected area may not respond properly and the damaged arteries cannot supply blood to the affected areas and impair its ability to heal fast. Thus patients with diabetes also have the chance to get leg ulcer (Boyko et al., 1999). Percy’s nerve does not deliver blood properly to the wounded are thus prevent it from healing.

**3-Percy’s current condition and the immediate action he needs:**

Percy is having a condition of hypoglycemia because his blood glucose level is below 4.0mmool/L and he would be needing glucose tables immediately. He needs fresh juice and candies with full of sugar to maintain his blood sugar level or he can reduce the intake of insulin for the time being (Bron, Marynchenko, Yang, Yu, & Wu, 2012). I would be providing him glucose tablets and fresh juice.

**4-Contribution of diabetes to Percy’s wound condition:**

Wounds normally heal by the help of vessel growth and maturation. The diabetic condition does not allow the proper growth of vessels and distresses the health of the vascular system. The uneven blood glucose level is not able to provide nutrient to the wounded area which let the wound expose to infection thus giving the red color (Okonkwo & DiPietro, 2017).

**5-Health professionals needed by Percy:**

Percy needs a specialist physician who can provide the treatment of both leg ulcer and diabetes, a nurse for frequently changing the dressing of the ulcer wounds he will need radiotherapist if the doctor recommended radiotherapy for the treatment of his leg ulcer.

**Case Study two – Urinary and neurological disorders**

Lee Ming is a lady in her forties and was diagnosed with TIA and the CT scan revealed that she is having a brain injury and also urinary issues.

**6-Urinalysis:**

The urine test shows that she has a negative level of glucose in her urine, PH is 5. Ketones are negative and protein and Nitrites are shown positive. Her urine has an odor and is giving a cloudy appearance.

The pathological cause of cloudy urine is the hyperoxaluria, pyuria, lipiduria, and chyluria.

Low urine glucose level shows a normal level of glucose in the blood. Her urine Ph. is 5 so that is neither too acidic nor basic but normal. The positive protein level in her urine could be the cause of the excess production of protein in her body or due to the malfunctioning of her kidneys. Ketones in her urine are negative which shows that her body has enough glucose and therefore the body is not breaking down fats which result in the high level of ketones in the urine. Her urine nitrites level is high which shows that she is having a bacterial infection in the urinary tract.

**7-Lee’s risk factors of a urinary tract infection;**

Age could be one factor behind the urinary tract infection because she is 45 and she might have menopause which lovers the estrogen level and makes the uterus prone to infection. She might have kidney stone which causes the infection or she might not have an issue of incomplete bladder emptying which triggers the influx of bacteria and causing UTI. (Foxman, 2002).

**8-The relationship between high temperature and an infection:**

The high level of boy heat is used to stimulate its immune system. When a foreign invader like virus or bacteria enters the body then the tissues release pyrogens which is a biochemical substance used to trigger the hypothalamus to release more body heat so that the body could be able to kill the foreign invaders (Bennett, Dolin, & Blaser, 2014).

**9-Definition of TIA , CVA and the occurrence of embolic CVA :**

TIA is the short form of Transient Ischemic Attack which is also known as a mini-stroke and it occurs due to the temporary blockage of the vein which carries blood to the brain.

While CVA is a Cerebrovascular accident in which the brain cells dies suddenly due to the lack of oxygen which happens when the arteries are blocked or impaired, it is known as a stroke.

However, embolic CVA occurs when the blood clots somewhere else and travels to the brain by the help of blood vessels. Embolic CVA might occur as a result of cardiovascular disease (Duncan, Propst, & Nelson, 1983).

**10-Health professionals needed by Lee:**

She needs to visit a neurologist in order to fully recover her brain damage and she needs a physician for her UTI. She also needs a pathologist and a nurse for the urine test.

**Case Study three – Respiratory, Reproductive and Genetic disorders**

Madeleine Brown is diagnosed with cystic fibrosis symptoms at birth and currently, Madeleine is thirty and is having respiratory and reproductive disorders.

**11- Both of Madeleine’s parent caries the recessive cystic fibrosis gene and the probability of their child to have cystic fibrosis would be:**

Cystic fibrosis gene is a gene that is defective and it produces abnormally thick mucus that leads to lung infections. If both the parents are carrying a recessive gene then there is a 25 percent chance that their new born will get that (Kerem et al., 1989).

**12- The effect of cystic fibrosis on the respiratory system:**

CF produces thick and sticky mucus which cause infection in the respiratory system. The thick mucus blocks the small airways of the lungs and they do not let the bacteria out of lungs which cause lungs infection. CF also causes a problem in the upper respiratory tract by creating nasal polyps and sinus infection by filling the air spaces behind and above the nose. So CF causes respiratory system infection (Kerem et al., 1989).

**13- Cystic fibrosis has a rare impact on the fertility of women, but males suffering from cystic fibrosis have huge difficulty with their fertility**

The majority of men with cystic fibrosis can produce normal sperm but the problem lies with the sperm canal/ it is either missing in such patients or is blocked by the thick mucus and the sperms are unable to get into the semen. This condition is called a congenital bilateral absence of vas deferens and it happens due to the gene mutation of CFTR. But in case of women it can block the path of the sperm but most of the time the sperm makes it through the mucus due to the wide space in the uterus may be and it is, therefore, it affects male fertility more than women (Sawyer, Tully, & Colin, 2001).

**14- The impact Madeleine’s pregnancy on her respiratory system:**

Madeline has cystic fibrosis and her pregnancy will have no impact on her respiratory system but her child might get the genetic disease and will have a disorder in his or respiratory tract.

**15- Health professionals needed by Madeleine:**

She needs a physiotherapist, a physician to check her respiratory system and a pathologist.

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