Society of Dermatology
SkinCare Specialists
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Approved Provider

TYPE 2 DIABETES COA#PCIA0517

CE Activity provided by PCI Journal

INSTRUCTIONS
1. Read the article.
2. Take the test, record your answers in the test answer section (Section B) on CE Registration Form.
3. Complete the CE Registration information (Section A) and Course Evaluation (Section C).
4. Mail completed CE Registration Form and fee to: PCI Journal, 484 Spring Avenue, Ridgewood, NJ 07450-4624.

PROVIDER ACCREDITATION
Paramedical Consultants, Inc., publishers of the PCI Journal and WWU have been approved by the NCEA COA. This educational activity has been approved for 1.0 CE – COA#PCIA0517

GENERAL PURPOSE STATEMENT
To provide the skin care professional with a review of *Treating Acne In Skin of Color*.

LEARNING OBJECTIVES
After reading this article and taking this test, the skin care professional will be able to:
1. Understand the identification process and symptoms, specifically relating to the skin, of Type 2 Diabetes.
2. Understand the different treatment options available for patients with Type 2 Diabetes.

TYPE 2 DIABETES

CE Activity provided by PCI Journal

Type 2 diabetes is a metabolic disease that is characterized by extremely high glucose levels caused either by the body's inability to use insulin efficiently or lack of insulin (hormones that regulate metabolic processes, providing cells with necessary energy). Type 2 is unique as it has been referred to as "adult-onset" diabetes because it is often diagnosed later in life. In Type 2, it becomes more and more difficult for the body's cells to absorb and utilize insulin; which can begin to affect the patient's skin.

Causes

More common than Type 1 diabetes, approximately 90% of people who have diabetes have Type 2. It develops when a patient's body starts to become resistant to insulin or their pancreas stops producing a sufficient amount of insulin. In Type 2 specifically, the pancreas does not cease to produce the sufficient insulin; the insulin produced stops affecting the body's tissues and cells. This is referred to as 'insulin resistance'. The pancreas can compensate by temporarily producing more insulin but eventually the pancreas will not be able to keep up, then blood sugar levels will rise. The exact cause of the disease is unfortunately unknown, however many doctors have acknowledged that genetics and environmental factors like excess weight and inactivity are contributing factors.

Symptoms

If Type 2 diabetes goes untreated then the patient's blood sugar levels permanently stay high. The disease can develop gradually over several years without any noticeable symptoms at first. Unfortunately, diabetes can affect every part of the body, which includes the skin. In some cases, the first sign of diabetes is skin problems. Some of the symptoms are skin conditions that anyone can get, but people with the disease get them more easily. These include bacterial infections (styes, boils, folliculitis, carbuncles and infections around the nails), fungal infections (jock itch, athlete's foot, ringworm and vaginal infections), and itching (yeast infections, dry skin or poor circulation). There are specific skin problems that only occur in diabetic patients including: acanthosis nigricans, when tan or brown raised areas appear on the sides of the neck, armpits and groin in usually overweight patients; diabetic dermopathy, when the changes in blood vessels cause light brown, scaly patches most often occurring on the front of both legs; necrobiosis lipoidica diabeticorum, when dull, red and raised area becomes a shiny scar with a violet border and can become cracked, itchy and painful; and eruptive xanthomatosis, when firm, yellow and pea-like enlargements appear on the skin with a red halo and becomes itchy.

Diagnosis

Type 2 diabetes develops very gradually, so usually patients will begin with minor symptoms. High blood sugar levels in the blood or urine is usually first detected during a routine check up. The doctor will check for other symptoms (including skin conditions) and will give the patient a physical examination and test their blood sugar levels. To test the blood sugar levels the patient will get a glycated hemoglobin test. This will be taken before the first meal and over the course of the day and analyzed to measure the percentage of blood sugar attached to hemoglobin (oxygen-carrying protein in red blood cells). The test will give the doctor a A1C level, a level of 6.5% or higher on two separate tests indicates diabetes. A result between 5.7% and 6.4% is considered prediabetes, which indicates a high risk of developing diabetes; and normal levels are below 5.7%. Other tests that could be used to diagnose includes: a random blood sugar test, a fasting blood sugar test or an oral glucose tolerance test.

Treatment

There are many factors that influence treatment plans for Type 2 diabetes. Age, physical condition, other diseases, lifestyle and individual goals of the patient with diabetes can affect the treatment plan. A simple adjustment for patients could be just to alter their lifestyle. Losing weight and exercising can make insulin more effective and lower blood sugar levels. Quitting smoking could reduce the risk of cardiovascular disease. For patients who are obese and unable to lose weight, a stomach reduction surgery could be a good option. To regulate blood sugar levels patients could take medications such as tablets, injections or incretin mimetics (hormone-like substances that help increase insulin production). The most common medications are metformin and sulfonylureas.

References:

https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072693/
http://www.mayoclinic.org/diseases-conditions/Type-2-diabetes/symptoms-causes/dxc-20169861
http://www.diabetes.org/living-with-diabetes/complications/skin-complications.html

CE TEST Type 2 Diabetes

1. The lack of which hormone leads to diabetes?
    a. Testosterone
    b. Insulin
    c. Estrogen
    d. Serotonin

2. What is insulin?
    a. Hormones that is secreted from the ovaries.
    b. Steroid that stimulates cell growth.
    c. Hormones that regulate metabolic processes, providing cells with necessary energy.
    d. Hormones that can cause depression when found in low levels.

3. Why is Type 2 diabetes referred to as “adult-onset”?
    a. It is usually diagnosed later in life.
    b. It is usually diagnosed in pre-teens.
    c. It is diagnosed only in elderly men.
    d. It is diagnosed only between the ages of 10-15.

4. What percentage of patients with diabetes have Type 2?
    a. 10%
    b. 50%
    c. 70%
    d. 90%

5. What is insulin resistance?
    a. When the pancreas stops producing insulin.
    b. When insulin begins affecting new tissues and cells.
    c. When the pancreas begins to produce too much insulin.
    d. When the insulin produced stops affecting the body’s tissues and cells.

6. What is the result of insulin resistance?
    a. The blood sugar levels decrease.
    b. The pancreas begins to deteriorate.
    c. The blood sugar levels rise.
    d. Nothing happens.

7. What happens if Type 2 diabetes’ symptoms go untreated?
    a. The blood sugar levels will stay permanently high.
    b. The blood sugar levels stay permanently low.
    c. There could be permanent brain damage.
    d. Nothing happens.

8. What is a skin condition that someone with Type 2 diabetes can get?
    a. Bacterial infections
    b. Fungal infections
    c. Itching
    d. All of the above

9. What is *not* a bacterial infection?
    a. Styes
    b. Ringworm
    c. Boils
    d. Carbuncles

10. What is a specific skin condition that only occurs patients with diabetes?
    a. Acanthosis nigricans
    b. Diabetic dermopathy
    c. Necrobiosis lipoidica diabeticorum
    d. All of the above

11. If a patient is experiencing itchy, firm, yellow and pea-like enlargements surrounded by red halos they have...
    a. Eruptive xanthomatosis
    b. Eczema
    c. Rosacea
    d. Psoriasis

12. What do doctors usually detect first in Type 2 diabetes patients?
    a. High blood sugar levels in the blood/urine.
    b. Low blood sugar levels in the blood/urine.
    c. High iron levels in the blood or urine.
    d. Low iron levels in the blood or urine.

13. What test can doctors use to check the levels of blood sugar?
    a. Skin graft
    b. MRI
    c. Glycated hemoglobin test
    d. Skin biopsy

14. What is measured during a glycated hemoglobin test?
    a. The percentage of iron in the body
    b. The percentage of blood sugar attached to hemoglobin.
    c. The percentage of water in the body
    d. The percentage of body fat to muscle

15. What A1C level indicates diabetes?
    a. Below 3.3%
    b. Between 3.3% and 5.7%
    c. Between 5.7% and 6.4%
    d. 6.5% and higher

16. What lifestyle changes can help a Type 2 diabetes patient?
    a. Losing weight
    b. Exercising
    c. Quitting smoking
    d. All of the above

17. A good option for obese patients who can't lose weight is...
    a. Diet pills
    b. Stomach reduction surgery
    c. Eating a carb-based diet
    d. Rest

18. What medications can patients use to regulate their blood sugar level?
    a. Tablets
    b. Injections
    c. Incretin mimetics
    d. All of the above

CE REGISTRATION FORM

Section A **TYPE 2 DIABETES** **COA# PCIA0517**

PRINT CLEARLY ***(Illegible forms will not be processed)***

Name: _____

Address: _____

City: _____ State: _____ Zip: _____ + _____

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Are you certified? ___Yes ___No

NCEA Certification# _____

Other Certification _____

Type of License:
Esthetician ___ Cosmetologist ___ Medical Professional ___ Other ____

License # _____State of Issue _____

Section B

Test Answers:
Darken one for your answer to each question

	A	B	C	D		A	B	C	D
1.	o	o	o	o	10.	o	o	o	o
2.	o	o	o	o	11.	o	o	o	o
3.	o	o	o	o	12.	o	o	o	o
4.	o	o	o	o	13.	o	o	o	o
5.	o	o	o	o	14.	o	o	o	o
6.	o	o	o	o	15.	o	o	o	o
7.	o	o	o	o	16.	o	o	o	o
8.	o	o	o	o	17.	o	o	o	o
9.	o	o	o	o	18.	o	o	o	o

Section C

Course Evaluation:

1. Did this CE activity's learning objective relate to its general purpose? ___Yes ___No
2. Was the elearning format an effective way to present this material? ___Yes ___No
3. Was the content relevant to your skin care practice? ___Yes ___No
4. How long in minutes did it take you to read the article_____, study the material_____, and take the test_____?
5. Suggestions for future topics_____

_____

Section D

Payments and Discounts:
The registration fee for this test is $24.95. (Check or money order payable to PCI Journal)
Society of Dermatology SkinCare Specialists Members - $4.95

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