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ปัญหาจากถุงมือในผู้ทำการเจาะเลือด 2 กรณีศึกษาทางอาชีวเวชศาสตร์

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Glove-related disorders among the phlebotomist, 2 case studies of occupational health problem

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วัตถุประสงค์: เพื่อนำเสนอและอภิปรายตัวอย่างกรณีศึกษา 2 กรณีของปัญหาจากถุงมือในผู้ทำการเจาะเลือด

สรุปกรณีศึกษา: กรณีแรกเป็นหญิงที่มาพบแพทย์ด้วยอาการมีผื่นที่มือสืบเนื่องจากการปฏิบัติหน้าที่ในทางการแพทย์ พบผลบวกจากการทดสอบด้วยการสวมใส่ ในรายนี้ได้รับการวินิจฉัยเป็นโรคผิวหนังจากถุงมือ กรณีที่สองเป็นชายที่มาพบแพทย์ด้วยอาการจาม มีน้ำมูก และคันที่ใบหน้าหลังการปฏิบัติงานในห้องปฏิบัติการ ซึ่งหลังจากได้รับคำแนะนำให้ใช้ถุงมือที่คลุกแป้งแล้วอาการจึงดีขึ้น ในรายนี้ได้รับการวินิจฉัยเป็นอาการภูมิไวเกินทางระบบทางเดินหายใจ

อภิปราย: การสวมถุงมือเป็นข้อปฏิบัติที่สอดคล้องกับการป้องกันการติดเชื้อแบบครอบจักรวาล ปัญหาจากถุงมือในผู้ทำการเจาะเลือดเป็นสิ่งที่พบได้ ภูมิแพ้เกี่ยวกับการเจาะเลือดสามารถเกิดได้ในทุกการเจาะเลือด โดยอาการพบได้ในรูปผื่นแพ้จากการสัมผัสโดยตรง ภาวะภูมิแพ้ทางระบบทางเดินหายใจ หอบหืด และภูมิแพ้เฉียบพลัน สำหรับผู้เจาะเลือดนั้นภูมิแพ้ต่อถุงมือเป็นสิ่งที่ควรคำนึงถึงสำหรับบุคลากรทางการแพทย์ในปัจจุบัน ปัญหาจากถุงมือนั้นแม้พบไม่บ่อยแต่การระลึกถึงเป็นสิ่งที่จำเป็น การใช้อุปกรณ์ทางการแพทย์ที่มีสารก่อภูมิแพ้ต่ำเป็นสิ่งที่พึงกระทำ

คำสำคัญ: ถุงมือ, ผู้ทำการเจาะเลือด

Objective: To present and discuss two case studies of gloves-related disorder among the phlebotomists.

Case summary: The first case was a female health care worker in the laboratory unit consulted the physician with the complaint of skin lesion on her hands. From further history taking, she notified usage of rubber gloves. The wearing test for this patient was positive. The diagnosis for this case was glove-related skin disorder. The second case was a patient presented with the complaint of rhinorrhea, sneezing and itching at face after practice his laboratory work. He was advised to change the gloves to powder free gloves. Then his symptoms were improved. This patient was diagnosed to have respiratory hypersensitivity.

Discussion: Wearing gloves is an important item according to universal precautions. Glove-related disorders can be found among the phlebotomists. Gloves-related allergy is a common disorder can be occurred in blood collection procedure. The wide spectrum of allergic manifestation including contact allergy, rhinitis, asthma and acute allergic attack are mentioned. Some allergies occur suddenly, the others presented as a long-term effect. To diagnose this disorder is not difficult but sometimes overlooked. Although the described allergies is not frequently detected but awareness is important. Selection of allergen free instrument for venipuncture practice is recommended.

Key Words: glove, phlebotomist

Introduction

Nowadays the most common technique to obtain blood specimen is venipuncture[1]. In the present day, it is an important procedure for diagnosis and treatment. To perform this technique, medical personnel can practice following recommendations and universal precautions[1]. Although the system is accepted for its advantage and used in many medical centers, adverse effects from procedure practice are also be documented.

Gloves are indispensable in many occupations including healthcare workers. Due to high rate of blood-borne pathogen diseases in the present day, universal precautions for the healthcare workers are recommended. Wearing gloves is one important practice to protect the phlebotomists for the possible accidental serosanquinous contact.

Gloves-related allergy is a common disorder can be occurred in blood collection procedure. The wide spectrum of allergic manifestation including contact allergy, rhinitis, asthma and acute allergic attack are mentioned. Some allergies occur suddenly, the others presented as a long-term effect. Like other countries, the prevalence of this disorder among the Thais is about 1.7 % [2]. Therefore, awareness of this problem is necessary.

To diagnose this disorder is not difficult but sometimes overlooked. Monitoring of adverse effects from venipuncture is necessary. Quality control of medical equipment and agents are the present discussed topics. Not only the adverse effects to the patients but also the occupational health consideration for the phlebotomists should be concerned. In this article, two cases of gloves-related disorder among the phlebotomists were presented and discussed.

Case report

Case 1

A 35 years old female health care worker in the laboratory unit consulted the physician with the complaint of skin lesion on her hands. The lesion presented as wheal with irregular border and central blanch matching to allergic reaction. The symptoms usually occurred after using gloves while practice as phlebotomist of the venipuncture clinic. She stated that the symptoms can be relieved by some antihistamine drug. From further history taking, she notified usage of rubber gloves. The wearing test for this patient was positive. This patient was advised to used special latex-free gloves. Then her symptoms were improved. The diagnosis for this case was glove-related skin disorder.

Case 2

A 26 years old patient presented with the complaint of rhinorrhea, sneezing and itching at face after practice his laboratory work. From physical examination, his nasal mucosa was pale and boggy, matching to allergic reaction. His nasal smear revealed eosinophilia. He stated no history of previous allergy. He presented he have to perform the laboratory test by himself and usually developed the symptoms. He stated usage of powder-lubricant gloves on his work. He was advised to change the gloves to powder free gloves. Then his symptoms were improve.

Discussion

Wearing gloves is an important item according to universal precautions. Glove-related disorders can be found among the phlebotomists. Although gloves are increasingly promoted for use by healthcare workers, this use is not without risk. Data associating gloves with an increased risk of latex allergy is available and there is circumstantial evidence that the powder from gloves used may increase bacterial environmental contamination[3]. It is concluded that gloves may be a substantial factor in the pathogenesis of cumulative irritant contact dermatitis, and that recommendations as to their use are important. Furthermore, long-term glove occlusion on normal skin (6 h/day for more than two week) can cause the negative effect on skin barrier function [4].

The first case is a case with diagnosis of glove-related skin complaint[5]. It is an important occupational-related problem. This problem can be found in upto 37% of wearers. Unclassifiable skin intolerance reactions from gloves, hand eczema, latex allergy are the three common symptoms [6].

A common allergic problem due to gloves wearing is later allergy. Natural rubber latex allergy has attained world-wide importance with the diagnosis of glove hypersensitivity, contact urticaria, rhinitis, conjunctivitis, asthma and anaphylaxis[5-6]. Among health care workers, latex allergy has gained prominence particularly with the spread of AIDS and an increase in the use of rubber gloves for barrier protection.

Rubber latex is a milky, white liquid containing the polymer cis-1,4-polyisoprene, derived from the laticifer cells of the rubber tree, Hevea brasiliensis [5-8]. It is a natural product and is processed in a manner that retains protein allergens and leaves residual chemicals on the latex gloves. Latex protein antigens are found in many latex products and also have been shown to bind to cornstarch

glove-donning powders. Of the approximately 240 polypeptides in latex, nearly 60 are antigenic. Many natural latex antigens share epitopes with structural proteins and enzymes from other plant species[5-8].

Reports of allergic reactions to latex, ranging in severity from skin rashes to anaphylaxis and death, have been increasing. However, most cases had only contact urticaria but no serious symptoms. Atopy, hand eczema, medical work and, possibly, pre-existing dermatitis predispose to sensitization and allergic symptoms[5-6]. To increase awareness of this important issue, several studies have been completed with results showing an average prevalence of about ten percent in selected populations of medical professionals.

For screening latex allergy, a simple and quick test based on a self-administered questionnaire and wearing provokative test has been presented, but it needs further evaluation. In the present day, a latex-glove scratch-chamber test is recommended as a screening method and latex prick and use tests are recommended as diagnostic method. Most affected cases can continue their routine work using cotton or vinyl undergloves or special latex-free gloves.

In the first case, the latex allergy was also suspected. The diagnosis is made on provocative test. However, according to the protocol for diagnosis of latex allergy, the skin prick test should be performed at first.

The second case is another interesting problem, respiratory hypersensitivity. Important allergen detected in gloves is maize powder. The maize powder can also cause the respiratory symptoms as latex. Co-positive reactions between latex and maize powder can be found. There is general agreement that corn-starch powder may cause irritant dermatitis and that it may be a vehicle for other allergens. It can act as type I allergen itself [9].

In this case the confirmed diagnosis by skin prick test did not be performed. Therefore, it cannot be classified what is the positive allergen. However, about 99% of negative skin prick test for talc and cornstarch are reported [9].

Glove-related health disorder becomes a widely discussed topic in occupational medicine presently. Selection of low allergen gloves for usage is recommended.

Conclusion

Glove-related disorder is an occupational health problem among the phlebotomists. In this article, 2 case studies were presented. A wide spectrum of glove-related disorders is observed. Due to the risk to this problem in daily practice, awareness among the phlebotomists is necessary.

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