EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 10
Issue: 8
61-64
Year: 2023

A RARE- FEATURES CASE OF ANGINA WITH ALLERGY TO NICOTINE PATCH WITH DISSEMINATION AND STRAWBERRY TONGUE

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Article Received on 25/05/2023 **Article Revised on 15/06/2023** **Article Accepted on 05/07/2023**

ABSTRACT
A seventy one year old well educated male smoker patient smoking 5 cigarettes per day presents to us with unusual presentation of angina pectoris after unusual pain chest for 12 days and was ultimately diagnosed angina pectoris via echo- cardiograph and ECG; and stent was inserted in left anterior descending artery; while seven days earlier it did not show anything on echo- cardiograph and ECG with another good cardiologist; however he developed nicotine patch and nicotine gum contact allergic dermatitis with dissemination as strawberry tongue and mild conjunctivitis and fixed drug eruption on the legs.

HISTORY
A 71 years old male patient c/o chest pain bilaterally 3"-3.5" away from mid sternum daily usually at 8: oo pm for last 12 days. The patient consulted a cardio-physician and echocardiogram and ECG were normal. Then the patient consulted a noted gastro-Enterologist who performed Oesophgasoscopy/ endoscopy and without much significant finding, he put the patient on many types of antacids, but still the pain recurred. Whenever chest pain occurred, there was heaviness in posterior wall of pharynx wall, being supplied by the vagus nerve with no clinical finding. Three days later the patient got up from sleep/nap at 6:00 pm with the same pain and the patient was rushed to another cardiologist, so that it could be seen during pain what is happening in the chest and echo-cardiograph was done and showed some regional wall motion abnormally and even ECG showed T-wave inversion in V4-V6 leads and hence the dye was cast in favour of angina pectoris and the next day cardiac angiography was done and DSE (Drug Elluting Stent) was fixed in lad artery; and after that the patient is fine as far as chest pain is concerned.

Although coronary disease is a leading cause of death in developed countries, much more is yet to be known about its presentation[1] and numbers of patients with atypical symptoms die before proper treatment. Concentration of bradykinin, thromboxane, potassium, histamine and prostaglandins change during myocardial infarctation[2] with bradykinin and adenosine being the most important mediators of cardiac pain and angina pectoris.[3] The main risk factor for angina or MI is hyperlipidemia, diabetes mellitus,[4] hypertension,[5] and tobacco use[6] and male gender.[7]

The patient is a smoker and smokes 5 cigarettes' daily for last over 40 years and the patient was requested to stop smoke immediately hence he was put on aspirin 75mg and cardiac vasodalators and anti platelets drugs. For the time being he was given nicotine patch 21 mg and even nicotine (Nicotex) gum for chewing, he preferred patches, but it was observed that the patient got patch test highly positive and 3-4 days later even some dissemination on legs only 5 patches of fixed drug erruption (c- figure)and book picture of strawberry tongue serum vitamin b12 was normal, however injection b12 1ml was given as patient was in deep agony because of the tongue, and patient got a bit better, but when the patient applied another patch glossodynia and strawberry tongue re-appeared, by that time it was clear that patient has contact allergy to nicotine patch and strawberry tongue as dissemination. Nicotine patch was stopped and the patient took nicotine chewing gum to find that glossodynia started again. So nicotine patch and gum were stopped altogether and patient is fine from mouth and cardiac problem.

Allergy to nicotine

Since the patient was a smoker and not ready to leave smoking immediately, he was given transdermal patches nicotine 21mg/ patch. The patches can cause irritation to nicotine as well as the gum used in the patches. But in our patient the patient developed 4+ type IV reactions to nicotine; though each time the patch was put on different sites (see fig. 1). Since we did not realize that this was contact dermatitis to nicotine and used a few more patches, the 4+ allergic contact dermatitis (ACD) was to much that it caused ACD dissemination especially on legs and a severe strawberry tongue (blood b12 serum level were too done before giving injection b12 1ml alternate days* 4 days) and the strawberry tongue disappeared. Also before development of strawberry tongue, there was glossodynia which to vanished. The 4+ ACD was treated which topical corticosteroid cream. However to be sure whether ACD was due to nicotine or gum of the patch or excipient used for penetration of active drug; a nicotine gum was chewed by patient and within 45 minutes, patient started getting glossodynia and some erythema of the tongue; hence the nicotine therapy was stopped and it become sure that nicotine and strawberry tongue were due to nicotine. It was not irritant dermatitis because there are dissemination of ACD lesions and resolution is quite slower, even the faint patch lesions can be seen even after 20 days, which favour the ACD because of dissemination patch test to individual components of the patch was not done and patient refused that, as even pervious one had not healed on the feared re- appearance of strawberry tongue. Transdermal patches of nicotine have already been tested and shown to be a week sensitizer [8-12]but in our case it was a very strong sensitizer.

Hence the patient has been advised to stop smoking willingly and unwillingly and it seems to be working. Also due to dissemination of ACD, patient also had mild conjunctivitis. In the both eyes for which gatifloxacin eye drops & later steroid were advised by ophthalmologist. As if all was not enough, the patient developed 5 patches of fixed drug eruption (figure 1) Patches due to aspirin or nicotine seen nearly 10 days after we start of aspirin/nicotine. Since aspirin is not known to cause FDE (fig. 2) (though it causes ulticaria and other rashes) so nicotine is the most suspect drug for ACD & fde. Since all other drugs are continuing and nicotine patch ACD as also the fde religions are disappearing; this also goes in favour of nicotine being the offender.

DISCUSSION

The 71 years old male smoker patient is being published here because of the following reasons:

1. The pain in the chest was not retrosternal, but 3-3.5" away from the midline of the sternum, hence could not be diagnosed for 12 days, despite the consultation of one of the best cardiologists, where echo-cardiograph and ECG were normal.
2. The pain usually occurred at rest, except one day when it was there during activity but only for 15-20 minutes and dis-appeared, but activity continues for 2 hours more. This was also a confusing factor in the diagnosis.

3. The patient also consulted a very good gastro-Enterologist who prescribed so many of kind's antacids, but to no effect.
4. Luckily the patient got the same pain at 6:00 pm after 2 hours of sleep, when he was rushed to another cardiologist to see what is happening in the chest. The echo-cardiograph showed some regional wall motion abnormality and ECG showed T- wave inversion in V4-V6leads and hence the diagnosis of angina pectoris was made and DES (Drug Elluting Stent) was put in left anterior descending artery and the patient is perfectly fine after 3 weeks.
5. The rest part of treatment was to wean the patient from smoking, for which he was presented nicotine patches and the nicotine gum; of which the patient preferred patch and discharged from the hospital in two days, with nicotine patch and when the patient removed the patch, there was erythema at the site and the patient put another patch but at a different site on the thigh. The patch site was seen by a senior and noted dermatologist and diagnosed irritant dermatitis/ contact allergies dermatitis. The former because it is more common and contact allergic is usually very mild, however later it was clear that it is contact dermatitis to nicotine, Then we thought of separate patch test to the nicotine, gum and excipient, but the patient was not ready, as by that time patient started getting glossodynia and fiery red book picture strawberry tongue and patient was in deep agony due and that. Though the patient B12 level was normal, still he was given injection B12 1 ml for four alternate days and he got relief due to B12 or a natural relief. Then patient was given ½ treatments of nicotine given but started getting glossodynia and some erythema of the tongue hence it was stopped immediately and patient got well in a day or two.
6. The dissemination which occurred in the legs was in fact fixed drug eruption when seen by dermatologist. Whether it was due to aspirin or nicotine is still an enigma as the fixed drug eruption (FDE) was due to aspirin or nicotine. Since the FDE started fainting, we were almost assured that it is not due to aspirin, because FDE can go to Steven Johnson syndrome and cause further complication. Though FDE to aspirin is well known [13], but even after the continuation of the drug, the lesions were decreasing & no further FDE was noted, hence it is presumed FDE could be due to nicotine as its patch test was 4+ and there is no further way to prove/disapprove the sure-shot cause of FDE in the case But it is better to make one diagnosis than two, hence we are in favour of FDE be due to nicotine, however FDE due to nicotine has not yet reported, however a few cases of ACD have been reported [14-17] as also ulticaria due to smoking.

So now the patient has been advised to stop smoking of his own; we have not heard of any other modality for weaving off smoking, so we have to wait and watch for the patient to stop smoking in his own interest.

Aknowledgements
We are thankful to MRS. mandeep verma for typing this article.

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