

Parenteral Nutrition – Induced Hypersensitivity In An Middle Age Adult: A Case Report

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Abstract: Hypersensitivity to parenteral nutrition is rare but has been reported in various cases of different age groups. We present a case report of 42 years male patient, who developed hypersensitivity reaction to parenteral nutrition (PN) solution containing Multivitamin infusion (MVI), confirmed by epicutaneous allergy testing. Hypersensitivity reactions were managed by withholding the PN and treating with antihistamines. [V Tiwari NJIRM 2017; 8(3):156-157]

Key Words: Parenteral nutrition, hypersensitivity

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Introduction: Hypersensitivity reactions occur rarely in patients receiving PN, but still they have been reported in new born¹, children (infant, toddler, pre-schooler & school aged child)²⁻⁶, adolescent⁷ and adult^{2,8}. The severity of symptoms is directly proportional to the length of exposure to PN before the reaction. We report a case of adult who had a hypersensitivity reaction when PN was administered.

Case Report: A 42 year old male presented to Rohilkhand Medical College and Hospital with the chief complaints of fever (on/off) since two months, breathlessness since ten days, cough with expectoration since ten days, haemoptysis since ten days and chest pain since two days. Patient took only symptomatic treatment from a local practitioner. There was no previous history of hospital admission. There was also no history of allergy in the patient or in the family.

The patient was diagnosed with pleural effusion secondary to liver abscess after examination and investigations.

On day 1, as per treatment protocol patient received intravenous Piperacillin/tazobactam, metronidazole, amikacin, pantoprazole and dextrose solution containing MVI. All the medications were given to the patient one after another within 15-20 minutes. Epicutaneous allergy testing or sensitivity testing was done only for antibiotics.

Within 20 minutes after giving all medications, the patient developed symptoms of puffiness over face, flushing, excessive sweating, anxiety, restlessness, itching over face & lower limbs, heaviness over head, shortness of breath, wheeze, hoarseness of voice, cough and pain during swallowing. These symptoms resolved after discontinuation of the infusions and administration of injection Pheniramine Maleate.

Since there was no hypersensitivity reaction with the antibiotic, the antibiotics were continued.

On Day 2, the antibiotics and pantoprazole were continued under supervision and no further adverse effects were seen.

On Day 3, the reaction reoccurred within 20 minutes when dextrose with MVI solution was restarted and resolved after discontinuation of the infusion and administration of pheniramine maleate.

Sensitivity was done on day 4 for mvi and dextrose normal saline solution separately. Complain of itching and inflammatory sign were noticed over MVI tested area, thus confirming hypersensitivity towards MVI.

Discussion: We report a case of an adult who developed sudden onset of symptoms to MVI. These symptoms disappeared within 20-30 minutes after discontinuation of PN and following a dose of antihistamine. The presence of symptoms and its sudden onset after PN infusion, in the absence of clinical or laboratory signs of sepsis, strongly suggest a hypersensitivity reaction^{9,10,11}.

It is very difficult to mark an allergen in the multicomponent parenteral nutrition. Various components of PN had already been reported to cause hypersensitivity reaction^{6,8}. Epicutaneous allergy tests reveal the sensitivity to various components in PN⁴. In our patient it helped to specify that hypersensitivity is due to MVI only, and this was confirmed after epicutaneous allergy testing of all components of PN. In our primary or tertiary care centers sensitivity test is done mainly for antibiotics, and for parenteral nutritional elements is not routinely followed. Hypersensitivity towards MVI had been reported in various cases previously^{4,5,6,7,8}

Conclusion: Hypersensitivity to PN is rare but had been reported in many individuals. So, keeping patient benefit in mind sensitivity testing for PN should be done routinely

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