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Case Report

Abciximab induced severe thrombocytopenia in an elderly patient

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ABSTRACT

Abciximab is a humanized monoclonal antibody which acts against $\alpha_{IIb}\beta_3$ receptor. The use of abciximab with percutaneous coronary interventions (PCI) has proven good results in patients. The drug has been notorious to cause bleeding and also decrease in the number of platelets. In this case the patient had normal platelet count but the count decreased significantly after abciximab was given. A number of cases have been reported but very few have been reported from India. Hence, we found it important to report and it is a valuable asset for scientific research.

Keywords: Abciximab, Thrombocytopenia, Percutaneous coronary interventions

INTRODUCTION

Abciximab is a humanized monoclonal antibody which acts against $\alpha_{IIb}\beta_3$ receptor. It also gets bound to the vitronectin receptor on, vascular endothelial cells, platelets and smooth muscle cells.¹ The inhibition of platelet aggregation occurs due to binding of abciximab with GP IIb/IIIa receptor which in turn inhibits the binding of fibrinogen and von Willebrand factor to platelets.² It is seen that in patients undergoing PCI abciximab has proven to have good clinical outcomes.³

Many studies have shown to cause thrombocytopenia with abciximab. A case study done in 2012, showed that there was retroperitoneal hematoma due to thrombocytopenia.⁴ Our case study shows a similar picture.

CASE REPORT

A 68-year-old female, a known case of hypertension for past 10 years for which she was taking telmisartan 40mg was brought to the government medical college Nahan with complaints of chest pain for past 4 hours. She was

diagnosed with ST elevation inferior wall myocardial infarction. She was immediately, put on tablet aspirin 375 mg and clopidogrel subcutaneous injection. Her baseline platelet count showed to be 2 lakhs per cm of blood. She was taken for angiography where we found occlusion of right coronary artery (RCA) and left circumflex artery (LCx). Angioplasty was done and stents were put in both the arteries. Post angioplasty she was put on abciximab infusion. The very next day there was a drastic fall in platelet count it came down to 3000 per cm. This arouses suspicion and a peripheral blood smear confirmed severe thrombocytopenia. The patient did not have any petechial hemorrhages or bleeding.

Abciximab was immediately stopped and patient was transfused with one unit of single donor platelet and daily monitoring of platelet count was done. After three days the platelet count became normal. The Naranjo's score was 6 (probable) and the world health organization (WHO)-Uppsala monitoring centre (UMC) causality assessment showed probable correlation with the current adverse event.⁵ Hence, we found the case interesting to report.

DISCUSSION

In the year 2000, PCI were being used in intracoronary stenting, angioplasty, atherectomy to increase the flow of blood in myocardial ischemia (MI).

Several studies and trials of PCI demonstrated an association between mortality and periprocedural infarction.⁶ Studies have shown that long term use of abciximab has reduced mortality among the patients with PCI.⁷ There has been studies which showed that stenting with abciximab is more effective than fibrinolysis with abciximab.⁸ A meta-analysis showed that the patients who were given abciximab had decreased incidences of revascularization, reinfarction within a span of 6 months but, it had higher incidences of thrombocytopenia and bleeding.⁹

Literature review done in 2021, showed that thrombocytopenia is seen in patients within 24 hours of treatment with abciximab.¹⁰ Many cases of thrombocytopenia has been reported with abciximab but the incidence of severe thrombocytopenia is low and only a few have been reported from India.

CONCLUSION

Fewer studies from India have been shown to have such an adverse reaction which are either unreported or misdiagnosed. Hence, this case study was rare and worth reporting to raise awareness for the same.

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REFERENCES

1. Brunton LL, Chabner BA, Knollman BC. The pharmacological basis of therapeutics. 13th ed. New Delhi: Mcgraw Hill. 2018.
2. Collier BS. Blockade of platelet GPIIb/IIIa receptors as an antithrombotic strategy. Circulation 1995;92:2373-8.
3. Topol EJ, Byzova TV, Plow EF. Platelet GP IIb-IIIa blockers. Lancet. 1999;353:227-31.
4. Peters MN, Press CD, Moscona JC, Syed RH, Katz MJ, Egan AA et al. Acute profound thrombocytopenia secondary to local abciximab infusion. Proc (Bayl Univ Med Cent). 2012;25(4):346-8.
5. Adverse drug Naranjo probability scale. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK548069/>. Accessed on 27 Oct, 2022.
6. Califf RM, Abdelmeguid AE, Kuntz RE. Myonecrosis after revascularization procedures. J Am Coll Cardiol. 1998;31:241-51.
7. Anderson KM, Califf RM, Stone GW, Neuman FJ, Montalescot G, Miller DP et al. Long-Term Mortality Benefit With Abciximab in Patients Undergoing Percutaneous Coronary Intervention. J Am Coll Cardiol. 2001;37:2059-65.
8. Kastrati A, Mehilli J, Dirschinger J, Schricke U, Neverve J, Pache J et al. Myocardial salvage after coronary stenting plus abciximab versus fibrinolysis plus abciximab in patients with acute myocardial infarction: a randomised trial. The Lancet. 2002;359(9310):920-5.
9. Bai N, Niu Y, Ma Y, Shang YS, Zhong PY, Wang ZL. Evaluate Short-Term Outcomes of abciximab in ST-Segment Elevation Myocardial Infarction Patients Undergoing Percutaneous Coronary Intervention: A Meta-Analysis of Randomized Clinical Trials. J Interventional Cardiol. 2022;2022.
10. Vincent L, Bourneau-Martin D, Maurier A, Babin M, Delepine S, Helley D et al. Delayed thrombocytopenia following administration of abciximab: Pharmacovigilance survey and literature review. Therapies. 2021;76(6):687-93.

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