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**Case Report**

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## A Case Report on Pyogenic Granuloma Induced by Indinavir Therapy

			
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### ABSTRACT

Indinavir is a protease inhibitor used as a component of highly active antiretroviral therapy to treat HIV/AIDS. It prevents protease from functioning normally. By using indinavir as a long-term therapy it induces adverse reactions like paronychia and pyogenic granuloma. In this case, a male patient of age 42 years had a history of taking indinavir 800mg BD since 1.5 years for the treatment of HIV. He complained with small pink color bumps on the skin diagnosed as pyogenic granuloma. Eventually, he was treated with corticosteroid cream topically after surgical incision of primary closure and indinavir drug was replaced with Nelfinavir 1250mg.



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## **BACKGROUND:**

Indinavir is a protease inhibitor drug widely used in the treatment of HIV/AIDS. Indinavir drug shows its action by binding to the protease active site and inhibits the activity of the enzyme. This inhibition prevents the cleavage of viral proteins resulting in the formation of immature noninfectious viral proteins. Obtaining the information from a study (Retrospective analysis of cases treated over a 10 years march 2005 to May 2014, average occurrence rate of pyogenic granuloma is 0.5% of all skin nodules. The average lesion diameter is 0.84cm with addition or reduction of 0.46cm. Bleeding was main complication and recurrence rate is 7.7%. In 1998, it described 42 cases of Paronychia and pyogenic granuloma in patients with AIDS who have been on antiretroviral therapy with Indinavir. 18 cases were pyogenic granuloma solely in them. According to that study, male:female ratio is 3.5:1 (14 & 4). Mean age was 37.5 years (range 25 to 51). The mean time between the therapy of indinavir and the growth of the granulation tissue was 8.3 months (range 2 to 23 months).

## **CASE REPORT:**

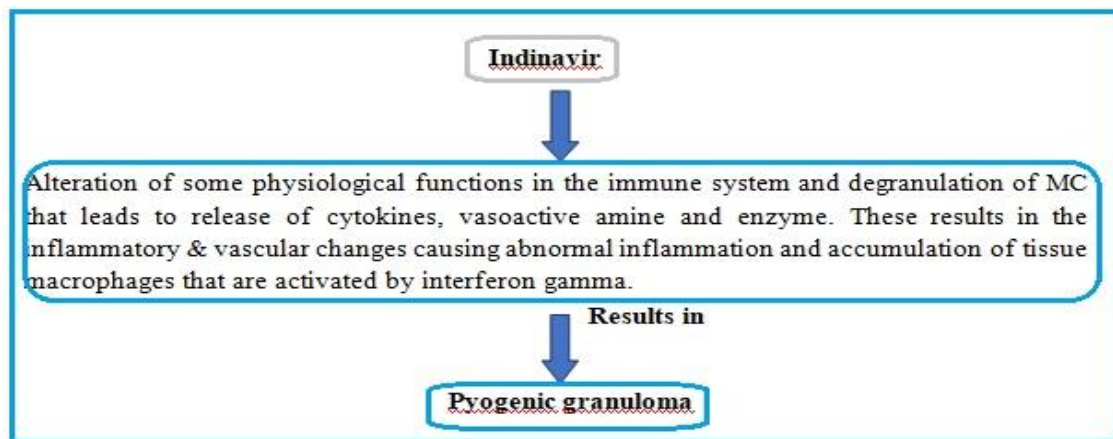
A 42 years male patient was admitted in the hospital with small pink color bumps having shiny surface on the skin (neck and hands) that tends to bleed. He had past medical history of HIV since, 18 months and on medication with Indinavir 800mg BD and Ritonavir 100mg BD. The patient was underweight with low BMI (13.9 kg/m<sup>2</sup>). On physical examination temperature and blood pressure were slightly elevated. On systemic examination, dermatological findings were abnormal while other parameters are normal. On laboratory Hb- 12gm%, WBC- 16000 cells, CD4-140, ESR-59mm/hr. Biopsy test finally confirm the patient was diagnosed of pyogenic granuloma. Even with the treatment of topical corticosteroids and antibiotics, patient did not respond to the therapy. Then physician stopped Indinavir and replaced with Nelfinavir 1250mg BD and patient undergone with the treatment of ointment clobetasol 0.05% TID (topical corticosteroid), Tablet Cefixime 200mg BD for 3 days (antibiotic), Tablet pantoprazole (antiulcer agent) and vitamin supplements after removal of excisions for primary closure. Patient was recovered within 5 days after de challenging of indinavir and discharged. This provides the evidence to support the case pyogenic granuloma was induced by indinavir therapy.



**Figure No. 1: A patient with the case of pyogenic granuloma**

### DISCUSSION:

Pyogenic granuloma or pyogenic fibroma is a vascular tumor that usually occurs on the skin. This is also known as capillary hemangioma or granuloma telangiectaticum. Signs and symptoms are usually appears-like red or pink color growths that grow rapidly and can be smooth with shiny surface. Their sizes commonly range from few mm to cm. It may be caused due to trauma, hormonal changes and other drug usage like indinavir, isotretinoin, rituximab and diseases like skin sarcoidosis, psoriasis.



**Flow chart. 1: An overview of how Indinavir induced pyogenic granuloma**

It was diagnosed on basis of its appearance. Biopsy was accurate diagnosis involves by taking a tissue sample. Histological characteristics were unique by having an ulcerated mucosa, fibrous connective tissue, collagen, stalk, completely exophytic. Treatment includes surgical excision, electric cauterization, corticosteroid ointments, antibiotics and analgesics.

**Table No. 1: Case reports of Indinavir induced pyogenic granuloma**

Reference	Patients	Etiological factor
[8] Calista et al. (2000)	HIV- positive adults but age and gender not specified.	Indinavir
[9] Bouscart et al. (1998)	42 patients, HIV- Positive (38 men and 4 woman), age not specified.	Indinavir
Current case	HIV Positive 42year male patient	Indinavir

**CONCLUSION:**

Before giving the therapies for a pyogenic granuloma identifies the underlying cause and treat with following standard guidelines. Early recognition of Indinavir induced pyogenic granuloma helps in reducing the complications after the withdrawal of drug. If it is not treated properly patient may face severe complications and may have prone to infections (Immune compromised patients).

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