Incidence of rhinitis medicamentosa among patients using nasal decongestants

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Abstract

Rhinitis medicamentosa is due to prolonged use of nasal decongestant(more than a week).it presents as nasal obstruction, headache and rhino rrhea.1-Identify the incidence of rhinitis medicamentosa in patients with nasal obstruction and allergy. 2-Define the differences in the incidence of rhinitis medicamentosa between male and female and among different age groups. 3-Clearfy the effect of the steroids in the treatment of rhinitis medicamentosa. Three hundred patients had been studied at Tikrit teaching hospital during the period of study which extend for six months. all of the patients undergone complete history and examination. Three hundred patients(150 male and 150 female)were involved in our study. the incidence of the rhinitis medicamentosa more in male than female. Also the disease was with high incidence in those patients with chronic nasal obstruction(60%) and lower incidence in patients with nasal allergy(10%).the incidence of the disease more in young and middle age groups. Large number of patients about 22 (55%) benefit from using steroid for four weeks. The study shows there is high incidence of rhinitis medicamentosa by the prolonged use of nasal decongestants in those patients with nasal obstruction, so correction of this obstruction by medical or surgical treatment is mandatory.

نسبة حدوث التهاب الأنف الدوائي المنشأ عند المرضى الذين يستخدمون الأدوية المزيلة للاحتقان

عامر صالح الجبوري

المستخلص

التهاب الأنف الدوائي ينتج عن الاستخدام الطويل الأمد للأدوية المزيلة للاحتقان (أكثر من أسبوع) ويظهر المرض على شكل انسداد الأنف ، صداع مع رشح. ثلاثمائة مريض للفئة العمرية(١٠ – ٥٠ سنة) درسوا في مستشفى تكريت التعليمي خلال فترة الدراسة التي استمرت ٦ أشهر . وقد اخذ تاريخ مرض كامل واجري الفحص ألسريري لجميع المرضى. ثلاثمائة مريض (١٥٠ ذكر و ١٥٠ أنثى) قيد الدراسة . نسبة التهاب الأنف الدوائي في الذكور أكثر من الإناث . ذلك المرض أكثر حدوثاً في مرضى انسداد الأنف المزمن(٦٠%) واقل حدوثا عند مرضى حساسية الأنف(١٠%) . كما أن نسبة حدوث المرض أكثر في الشباب ومتوسطي الأعمار . الاستخدام الطويل الامد (أكثر من اربعة اسابيع) للادوية الستيرويدية يؤدي الى تحسن كبير(٥٥%) في مرض التهاب الانف الدوائي المنشأ . الدراسة اظهرت ان هناك نسبه عاليه من مرضى التهاب الانف الدوائي المنشأ نتيجة الاستخدام الطويل الامد للادوية مزيلة للاحتقان في مرضى انسداد الانف،لذا ان تصحيح هذا الانسداد بالعلاج او جراحيا ضروري جدا.

Introduction

Rhinitis medicamentosa is drug-induced rhinitis that is caused by rebound nasal congestion. it is often associated with prolonged use of topical decongestants(oxymetazoline and benzalkonium chloride).It is thought that a semi-ischemic state is induced by the strong vasoconstrictive effect of topical decongestants. with time, this effect lead to accumulation of vasodilators that are responsible for the rebound vasodilation associated with sinusoidal engorgement. The condition can become irreversible with the development of vascular atony.longstanding use of such decongestants probably reduce their effect (tachyphylaxis) due to desensitization of mucosal vessels with loss of alpha-adrenergic tone. further irritation of the mucosa and dryness can occur with suppression of nasal cycle for p to 6 months after cessation of treatment, also persistent use give rise to sub epithelial fibrosis.(1)

Nasal decongestant causing rhinitis medicamentosa.
1-Sympathomimetics:
-Amphetamine
-Benzedrine
-Caffeine
-Ephedrine
-Mescaline
-Phenylephrine
-Phenylpropanolamine
-Pseudoephedrine
2-Imidazolines
-Clonidine
-Naphazoline
-Oxymetazoline
-Xylometazoline(2)
Clinical features
1-Nasal obstruction (worse at night)
2-Headache may be due to obstruction to the sinus ostia which either lead to vacuum headache or secondary infection causing sinusitis.
3-Rhinorrhea.

Signs: Clinical examination by anterior rhinoscopy shows a boggy and edematous nasal mucosa, hypertrophy of the anterior end of inferior turbinates,while examination by posterior rhinoscopy shows mulberry hypertrophy of posterior end of the inferior turbinate.
Treatment.
-Discontinue nasal decongestants
-Nasal and systemic steroids
-Turbinate reduction procedures like sub mucosal diathermy,turbinoplasty and partial turbinectomy.
-Treatment of the diseases in which the nasal decongestant used and lead to rhinitis medicamentosa(3)

Structural abnormalities that cause nasal obstruction.
1-Deviated nasal septum.
2-Turbinate hypertrophy.
3-Nasal valve collapse.
4-Polyps.
5-Neoplasm.
6-Intranasal and extra nasal deformities.(3)

Allergic rhinitis. It is IgE mediated, type-I hypersensitivity reaction of nasal mucosa in response to antigenic substances associated with episodic attacks of sneezing, watery rhinorrhea and watering of the eyes. patients may also present with tightness of chest due to subclinical bronchospasm.(4)

Types.
1-Seasonal
2-Perennial.
3-Mixed.

Medical treatments
1-Avoidance of allergens.
2-Pharmacotherapy.
a-Antihistamines.
b-Steroids
c-Sodium cromoglycate.
d-Decongestants.

e-Saline irrigation of the nasal cavities
3-Immunotherapy

SURGICAL.
1-Turbinate reduction.
2-Correction of septal deviation.
3-Endoscopic sinus surgery.(1)

Patients and methods

During the period of the study which extend from October 2009 to march 2010 ,three hundred patients(150 male,150female) of age group 10-50 years had been studied in Tikrit teaching hospital. Complete history was taken from the patients which involve taking nasal decongestant (oxymetazoline) for more than week that used for relieving nasal obstruction lead to rebound nasal obstruction, headache and rhinorrhea. All the patients undergone nasal examination by anterior and posterior rhinoscopy seeking for hypertrophy of the anterior and posterior end of inferior turbinate. After stopping the nasal decongestants, the steroids(budesonide 64 micrograms/dose twice daily as nasal spray) given for two week then nasal examination to find the number of patients who improved, then another course of steroids for another two week given and reevaluation done ,the cases who are not benefit from steroids for four weeks undergone surgical treatments(turbinectomy and sub mucosal diathermy).

Results

Three hundred patients(150 male,150 female) of age group 10-50 were involved in our study. After full history taking and complete nasal examination.40(13.3%) patients where complaining from rhinitis medicamentosa.5 patients(12.5%) use the nasal decongestant for two weeks,15 patients (37.5%) use the drug for four week and 20 patients(50%) use the drug for more than six weeks (fig1). the Incidence of rhinitis medicamentosa among male 24 (60%) more than female 16 (40%) (fig 2). Twelfth patients (30%) who previously had viral rhinitis have rhinitis medicamentosa,four patient (10%) of total number of patients with rhinitis medicamentosa had allergy ,whereas 24 patients (60%) of total number of rhinitis medicamentosa had previously chronic nasal obstruction (16 patients had septal deviation and 8 patients had nasal polyp)(fig 3). According to age groups, the incidence at age group 10_20 years is 14 patients (35%), 20-30 years is 4 patients (10%), 30-40 years is 8(20%) and 40_50 years is 14 patients (35%) (fig 4). Twelfth patients(30%) benefit from nasal steroid for two week duration. twenty two patients (55%) benefit from nasal steroid for four weeks duration. Six patients (15%) undergone surgical treatment (fig 5)

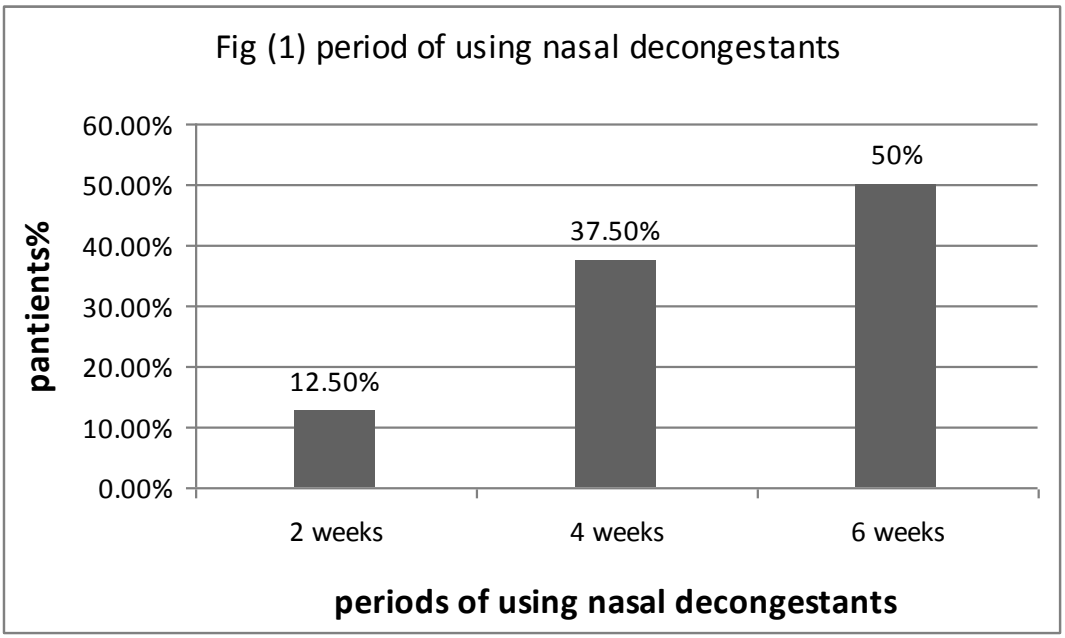


Fig (1) periods of using nasal decongestants

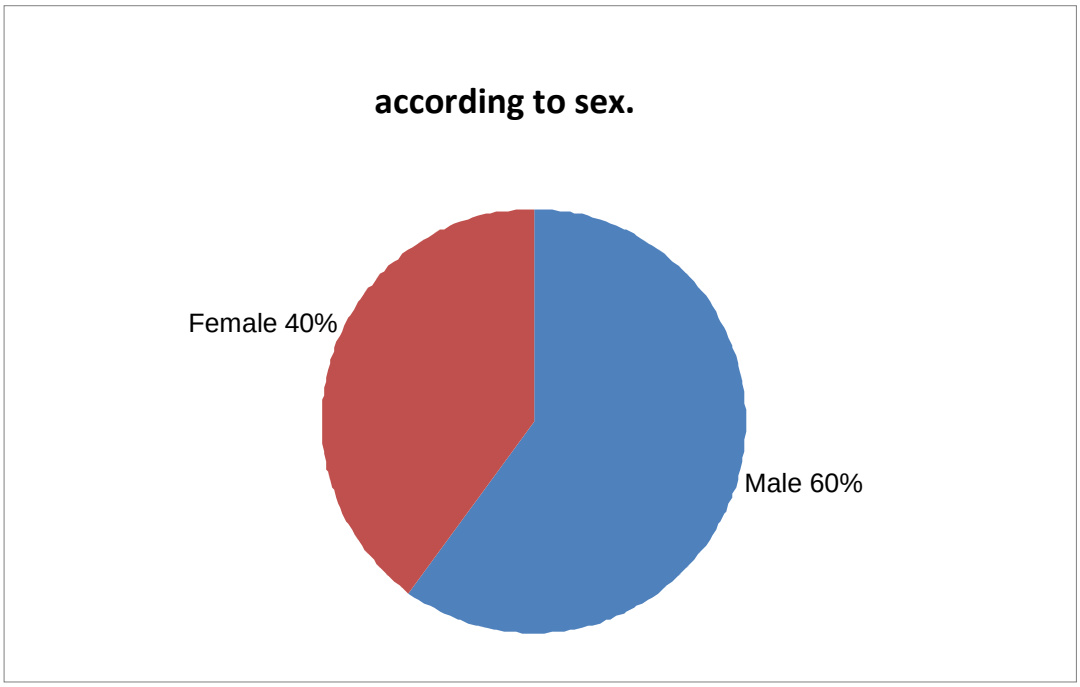


Fig (2):- Distribution of rhinitis medicamentosa

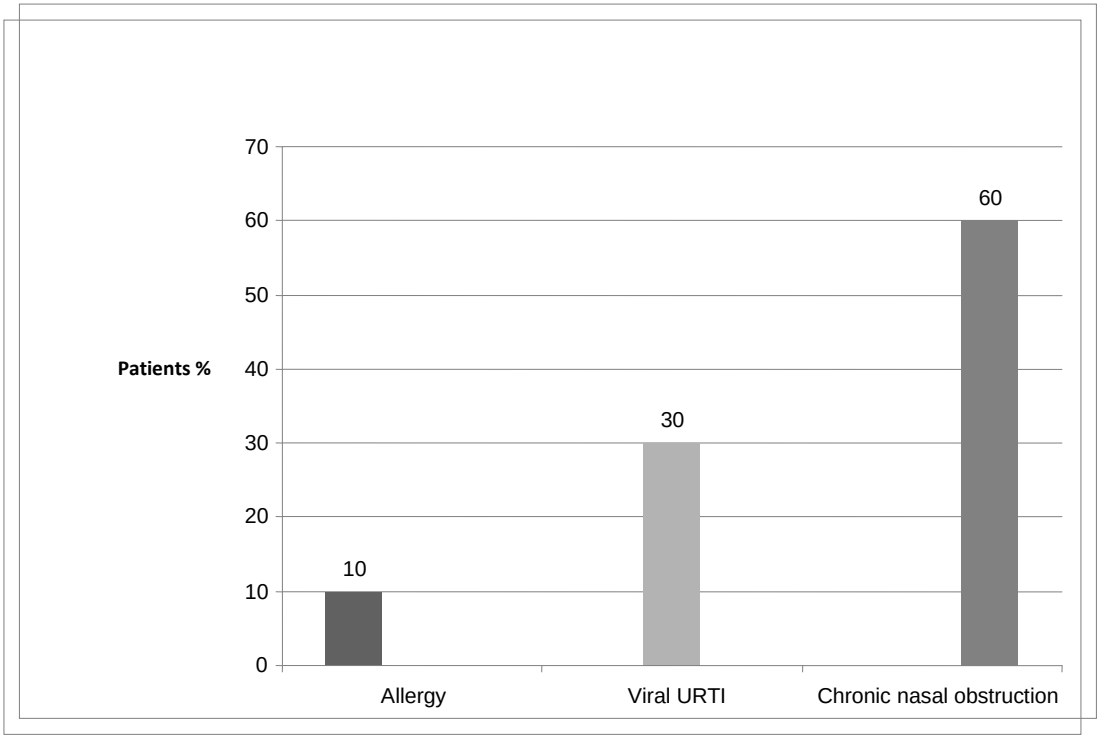


Fig (3):- Distribution of rhinitis medicamentosa according to the diseases in which the nasal decongestants used

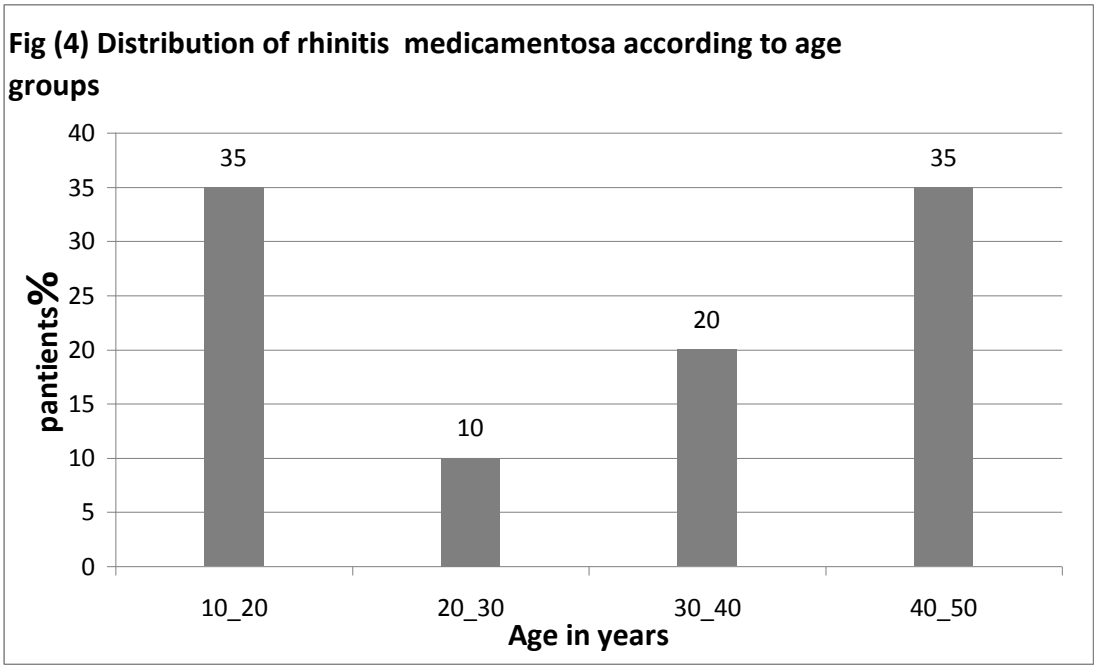
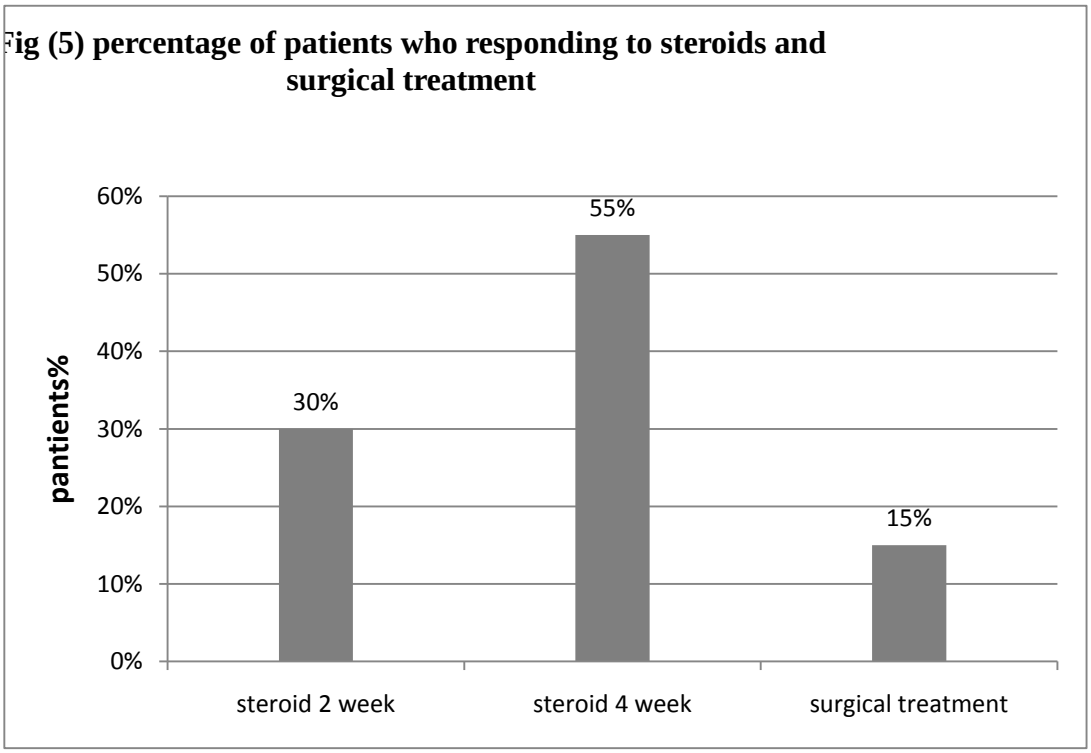


Fig (5) percentage of patients who responding to steroids and surgical treatment



Discussion

A number of researches interesting the study of rhinitis medicamentosa.In my study the incidence of rhinitis medicamentosa about 13.3%,but the result of the study of Black MJ, Resmer.KA (5) was (9%)and the result of the study by strido Ro(6) was (5%).There were sex differences in the incidence of rhinitis medicamentosa and this agree with result of graft p (10).But the incidence of this disease more in the young and middle age group, these result were correlated with result of the study by Yoo JK,Seikaly H and Calhoun KH(7) who find the disease more in young age group about (40%),also correlated with result by Toohil et al(8) who find about (30%) and(40%) in middle age group. The main diseases in which the patients use nasal decongestant for prolonged period that lead to rhinitis medicamentosa include viral upper respiratory tract infection(30%) ,allergy (10%) and chronic nasal obstruction(60%) , but the result of the study by Graf P was (50%) with viral rhinitis has rhinitis medicamentosa and (9%) had allergy and (41%) has chronic nasal obstruction(9), but the result of the study by fleece L et al (6%) of patients with rhinitis medicamentosa had nasal allergy(10). The prolonged use of steroids for four week give good improvement of rhinitis medicamentosa in 22(55%) and these agree with result of Baldwin RL(11) Who find about (50%) benefit from steroids for four weeks,and also correlated with of Scadding GK who find that (60%) benefit from steroids for more than four weeks(12)

Conclusions

Our study showed that prolonged use of nasal decongestants lead to chronic sign and symptoms of rhinitis

medicamentosa especially in those with chronic nasal obstruction and in young middle age group than other groups. also the disease more common in the male than female. The study showed prolonged use of steroids can solve the problem and small number of patients need surgical intervention.

Recommendations

1-Avoidance of nasal decongestants for long duration(more than week)
2-The long use of steroids can be of benefit for treatment of rhinitis medicamentosa if used for long duration (more than month)
3- Early surgical treatment for septal deviation and turbinate hypertrophy avoid the excessive use of nasal decongestants that lead to rhinitis medicamentosa

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