The Relationshipe Between Stress and Duodenal Ulcer Disease

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Özet Peptik ülserlerin oluşması ve tekrarlanmasında stresli yaşamanın rolü olduğuna dair görüşler mevcuttur. Günümüzde çok az çalışma peptik ülser patogenezinde yoğunlaşan sosyal stresin üzerinde odaklaşmıştır.

Bu çalışmada disiplin altında eğitim gören askerlerin kontrol grubuna göre daha fazla strese maruz kaldıkları varsayımıyla bu kişilerin ne ölçüde ülserli oldukları araştırılmıştır. Rastgele 86 gönüllü asker çalışmaya katıldı(yaş ortalaması 20± 1). Mesleki uğraşları, yaş, cins ve sosyal konum yönünden uygun olan ve rastgele seçilen kontrol grupları (n: 18) (yaş ortalaması 23±1) askerlerle karşılaştırıldı. Son 2 yıl içinde ülser, ciddi organik veya psikiatrik hastalık öyküsü olanlar çalışma dışı bırakıldı. Sigara ve alkol içimi, ülserojenik ilaç kullanımı ekarte edildi. 15 gün öncesinde hiçbir ilaç almadıklarından emin olundu. Fizik inceleme yapıldı. Gastroskopik incelemelerinde ülserleri skorlandı. Stres grubu askerlerde peptik ülser %29, kontrol grubunda ise %4.5 idi. Bulgular stresli yaşamın peptik ülser etiyolojisinde rol aldığını göstermektedir. Ayrıca bu çalışmanın sonuçları ve literatür bilgileri ışığında disiplinli çalışan askerlerin normal toplumdan daha fazla strese maruz kaldıkları, altı aydan daha uzun süren ve amaçları engellenerek oluşturulan stresin duodenal ülser patofizyolojisinde önemli bir temel teşkil edeceğini düşündürmektedir.

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Despite the view that stressful experiences play some role in the onset or relapse of duodenal ulcer(DU) disease, empirical findings generally have not supported this hypothesis (1-5). These largely negative findings may indeed reflect the fact that no such relationship exists; however, the lack of positive evidence for such a relationship may have other causes. Little research to date has focused on the relative etiological impact of acute versus chronic life stressors in DU disease; acute stressors alone rather than ongoing chronic stressors have been the main focus of assessment. Evidence (6) suggests that indeed acute and chronic stressors may have a significantly different role in the development of duodenal ulcer disease. A matched case-control study that effectively distinguished acute and chronic stressors (6) found that whereas acute life events were not causally related to DU disease onset, chronic difficulties were. The DU patients had more than double the number of difficulties that control did, but no particular descriptive type of difficulty (e.g., work, marriage, etc.) distinguished DU patients from controls. The mean duration of the patients difficulties was also greater, 6.4 years compared with 3.8 years for controls. These results suggest that life stressors must be of sufficient duration and severity to provoke the necessary chronic physiological changes that cause DU. Further research is required to replicate these findings.

Some investigators (7) studied the concept of goal frustation in a sample of patients with a variety of upper GI diseases including DU. Stressors deemed specifically goal frustrating were associated with the onset or relapse of these mixed GI conditions. Although their study suggests a link between stress and GI disease, the conclusions that can be drawn from it are restricted by the study's lack of distinction between acute and chronic stressors and the heterogeneity of the sample, which included several GI disorders.

Both patients and physicians believe that peptic ulcer disease can exacerbate during or after stressful life events. Occupational, educational, or financial problems or family illness may precede the development or recurrence of duodenal ulcer, suggesting a causal association(8). during the blitz of London in the fall of 1941, an increased number of perforated peptic ulcers occurred(9). Such observations suggest that stress is causally related to ulcer disease, but establishing this point has been difficult because the definition and quantification of stress itself is problematic (10). A survey of air traffic controllers, who work in an environment with obvious stress, revealed a frequent complaint of dyspepsia, but the incidence of duodenal ulcers was not obviously increased. The number of stressful life events and their associated distress scores failed to difference 74 duodenal ulcer patients from age-matched control subjects (12). The important variable is probably not the intensity of external stress, but rather the individual's interpretations and reactions to the stress, and few studies have adequently assessed the individual's cognitive appraisal and response to the stressful events in relation to personality patterns and response to the stressful events in relation to personality patterns and defenses(11). Although rigorous studies are lacking, some duodenal ulcer patients appear markedly affected by stressful life events, reacting with excess anxiety, frustration, and hostility and perceiving life events more negatively than control subjects (13-15). It is likely that these psychologic factors impact negatively on ulcer disease, at least in a subset of patients.

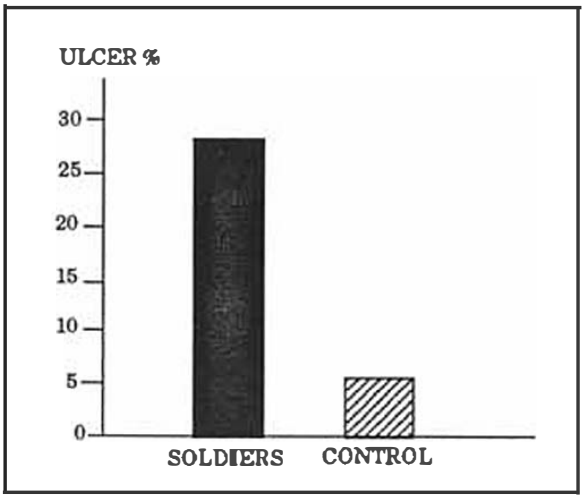
In the present study, we investigated DU ratio, in the normal population and soldiers group, are undertaken the dissipline. However, we aime of study is to show the relationshipe between stressors live and DU disease.

MATERIAL and METHODS

Eigthy six soldiers volunters were studied in randomized. 18 controls were matched with soldiers were selected at random from electroral roll for age, sex, and social status. Subjects were excluded if they have a history of peptic ulcer, other serious disease or obvious psychiatric illness, are under 2 years. They were also excluded to have the history of smoking, drinking, or of taking non-steroidal anti-inflammatory analgesies, or antisecretory use. They were inged no medication for at least 15 day prior to enrollment in the study. Before entrance in the study, each individual had a medical history taken and physical examination were performed.

Subjects were admitted to the study unit after a 12-hour over-night fast. In the morning esophagogastro-duodenoscopy (EGD) were performed, using an Olympus GIF-Q gastroscop(Olympus Co of Japan), using lidocain (ADEKA Co, Samsun-Turkey) hypopharyngeal anesthetic. Intravenous diazem were given as necessary for sedation. Gastric mucosa were observed continuously and evaluated independently by endoscopist.

The primary statistical analysis was performed reparately for the endoscopic observers after endoscopy. Subjects and kruskal Walls test were used to Compure the two groups (9). In-depth, pairwise comparisons between each two groups were also caried out at he 5% sig-



Graphic 1: Ulcer score in the gastric mucosa for the three treatment groups(mean ± SEM)

Fig. 1. Fisher exact x2 test of the study.

Groups	Ulcer(+)	Ulcer(-)	Total
Solders	25(21.5)*	61(64.5)*	86
Control	1 (4.5)*	17(13.5)*	18
Total	26(26.0)*	78(78.0)*	104

* Expected frequance
p<0.01

nificance level, following Fisher's LSD principle (17).

RESULTS

The ulcers size were 0.3 to 0.8 cm in the both groups subjects. Of soldiers 86 (29%), and controls 18(4.5 %) had ulcer (Graphic 1) (Figure 1).

DISCUSSION

"Stress" is a broad term encompassing the many influences on an individual's sense of well-being, both physiologically and psychologicaly. "Illness," the typical outcome variable in stress research, is the result of a complex interaction between the various properties of the external event as well as the interpretation of such an event by the individual. The perception of stress will depend on many factors, including intelligence, verbal skills, personality, psychological defenses, coping style, cognitive appraisal of the situation past experiences, as well as more overt characteristics such as age, level of education, income, and occupation(18).

Both patients and physicians believe that peptic ulcer disease can exacerbate during or after stressful life events. Occupational, educational, or financial problems or family illness may precede the development or recurrence of duodenal ulcer, suggesting a causal association(8). During the blitz of London in the fall of 1941, an increased number of perforated peptic ulcers occured (9). Such observations suggest that stress is causally related to ulcer disease, but establishing this point has been difficult because the definition and quantification of stress itself is problematic(10). A survey of air traffic controllers; who work in an environment with abvious stress, revealed a frequent complaint of dyspepsia, but the incidence of duodenal ulcers was not obviously increased(11).

The number of stressful life events and their associated distress scores failed to differentiate 74 duodenal ulcer patients from agematched control subjects(12). The important variable is probably not the intensity of external stress, but rather the individual's interpretations and reactions to the stress, and few studies have adequately assessed the individual's cognitive appraisal and response to the stressful events in relation to personality patterns and defenses(11). Although rigorous studies are lacking, some duodenal ulcer patients appear markedly affected by stressful life events, reacting with excess anxiety, frustration, and hostility and perceiving life events more negatively than control subjects (13-15). It is likely that these psychologic factors impact negatively on ulcer disease, at least in a subset of patients.

The finding in the present study that DU pati-

ents experience significantly more chronic difficulties than controls consistent with results from recent investigations (6,19,20). There was also a definite trend for chronic difficulties that were highly goal frustrating to be related to DU disease, which is consistent with the findings of Craig and Brown (7). This suggests that the difficulties that frustrate important life goals and the concomitant emotional serponses(likely to be anger and frustration) associated with those difficulties induce the physiological changes associated with the onset or relapse of DU disease.

In conclusion, chronic goal-frustrating stressors of langer than 6 months' duration also seem important and may well be linked to the underlying and enduring pathophysiology of DU disease.

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