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Investigation of the Relationship of Q Angle and Stork Balance Stand Test With Somatotype in Healthy Young Individuals

Investigation of the Relationship of Q Angle and Stork Balance Stand Test With Somatotype in Healthy Young Individuals

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Abstract

Aim: The Q angle, which is an important marker for assessing lower extremity status in all skeletal evaluations, is also a parameter influencing balance. The aim of this study is to investigate the relationship of patellafemoral angle (Q angle) and stork balance stand test (SBST) with somatotype in healthy young subjects.

Material and Methods: Q-angle, SBST and somatotype measurements of 191 healthy young individuals (105 male, 86 female) were made within the context of the study. Somatotype measurement was made with Heath-Carter formula. Somatotype calculations were made with "Somatotype for Windows 1.2.6 Trial Version" program.

Results: In the 191 individuals who participated in the study, 7 different somatotypes were found as endomorphic mesomorph (71), mesomorph-endomorph (27), balanced ectomorph (15), central (17), balanced mesomorph (24), mesomorphic endomorph (19), mesomorphic ectomorph (18). According to the Kruskal Wallis H Test conducted, it was found that there were no statistically significant differences in Q angle and SBST of each somatotype found in males and females ($p>0.05$).

Conclusion: It was found that there were no statistically significant associations between SBST and Q angle scores and somatotypes assessed in our study. It is thought that since there are limited numbers of studies in literature conducted by using detailed somatotype character analysis, our study will contribute to making up the deficiency in this field.

Keywords: Stork balance stand test, Q angle, balance, somatotype

Oz

Amaç: Tüm iskelet değerlendirmelerinde alt ekstremite durumunu değerlendirmek için önemli bir belirteç olan Q açısı dengeyi de etkileyen bir parametredir. Bu çalışmada; sağlıklı genç bireylerde patellafemoral açı (Q açısı) ve stork balance stand testinin (SBST) somatotip ile ilişkisinin incelenmesi amaçlandı.

Materyal ve Metod: Çalışma kapsamında üniversite öğrencisi 105'si erkek, 86'sı kadın toplam 191 sağlıklı genç bireyin Q açısı, SBST ve somatotip ölçümleri yapıldı. Somatotip ölçümü Heath-Carter formülü ile yapıldı. Somatotip hesaplamaları "Somatotype for Windows 1.2.6 Trial Version" programı ile yapıldı.

Bulgular: Çalışmaya katılan 191 bireyde endomorfik mezomorf (71), mezomorf-endomorf (27), dengeli ektomorf (15), merkez (17), dengeli mezomorf (24), mezomorfik endomorf (19), mezomorfik ektomorf (18) olmak üzere 7 farklı somatotip tespit edildi. Yapılan Kruskal Wallis H Testine göre erkek ve kadınlarda belirlenen her bir somatotipte Q açısı ve SBST'de istatistiksel açıdan anlamlı fark olmadığı belirlendi ($p>0.05$).

Sonuç: Çalışmamızda değerlendirilen SBST ve Q açısı skorları ile somatotipler arasında istatistiksel olarak anlamlı ilişki bulunmadığı belirlendi. Literatürde ayrıntılı somatotip karakter analizi kullanılarak yapılmış oldukça sınırlı sayıda çalışma olduğu, çalışmamızın literatürde bu alanda görülen eksikliğin giderilmesini sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Stork balance stant test, Q açısı, denge, somatotip

INTRODUCTION

The quadriceps femoris angle, also known as the patellafemoral angle (Q angle), is defined as the angle between the line between the anterior superior and the midpoint of the patella and the line joining the patella midpoint and the tuberositas tibia (1). In addition to being used in assessing patellafemoral mechanism in clinic, it is also an important marker used to determine lower extremity status in all skeletal evaluations (2). It is thought

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that when the Q angle exceeds the 15-20 degree limit, it causes disruption of the knee extensor mechanism and causes patellofemoral pain with increasing tendency of the patella to shift laterally. Disturbances in biomechanics of the knee joint and therefore of the lower extremities bring about problems related with balance. In the literature review conducted, it can be seen that Q angle is affected by physical performance and especially increased quadriceps-hamstring ratio (3). Postural control and balance are the ability to maintain the body's center of gravity over the base of support; it is a basic requirement for independent mobility in daily life (4) The maintenance of this complex process depends on the vestibular system, age, pain, vision, body shape, body composition, visual-spatial perception, tactile input, agility, proprioception, and the musculoskeletal and neuromuscular systems (3). Any insufficiency of this complex may result in imbalance. From this point of view, the idea arises that Q angle can be associated with somatotype, which is a detailed body composition evaluation method.

Somatotype is a genetic marker that identifies the physical and somatic health of individuals relatively and it is a method by which body composition is expressed regardless of body size and shape. Evaluations made by using anthropometric measurements allow the description of a person's physical structure. When evaluating the morphofunctional characteristics of individuals, evaluating the somatotype is important when combined with clinical anthropometric measurements to obtain important results about the individual (5-7).

In the literature, it is seen that somatotype is determined only as endomorphic, mesomorphic and ectomorphic in studies conducted about muscle strength of different somatotypes and balance, and our study is different from other studies based on the fact that 13 subgroups of somatotype were examined in our study and the assessments were made on 7 subgroups found.

The hypothesis of this study is that Q angle can be influenced by body composition and this situation can be related to balance. In the literature review conducted, no studies were found which correlated Q angle and balance issues with somatotype character analysis. The aim of this study is to investigate the relationship between Q angle and SBST and somatotype in healthy young individuals and to contribute to the literature from this perspective.

MATERIAL AND METHODS

This study was conducted with the 2019/5-17 numbered permission of Local Clinical Researches Ethical Board. A written informed consent was obtained from each participant. The study was conducted in accordance with the principles of the Declaration of Helsinki.

A total of 191 healthy sedentary volunteers (105 male, 86 female) who were not engaged in any sport, did not do active sports in the last 6 months and who did not have any orthopedic, neurological, systemic and cognitive problems participated in the study.

Data Collection Process

Sociodemographic data and measurement results of each participant informed about the study were recorded.

Age, Height, Weight, and Body Mass Index Measurements

The patients' ages were calculated in years, and their heights were measured in cm while they stood barefooted using a steel stadiometer with a precision of 0.1 cm. Their weights were measured in kg while they stood barefooted without metal using a Tanita BC Segmental Body Analysis System (Tanita Corporation, Tokyo, Japan). The body mass indexes (BMIs) were calculated using the following formula: weight (kg)/height (m2) (8).

Anthropometric measurements

For the triceps skinfold (SF), the measurement was taken, when the participant was on foot, hanging his arms freely to the sides without contracting. The measurement was taken over and from the midpoint of the triceps muscles behind the arm. For the subscapular SF, the measurement was taken by removing the skin and the underlying skin layer by complying with the natural folds of the skin, right under the scapulas of the participants and the thumb, index, and middle fingers of the left hand. For the supraspinale, the measurement was made, when the participant was standing over the ileum bone and the line on which midaxillary line was. For the calf SF, the measurement was made by removing some skin from the medial area of the leg. For the elbow width, the arm was pulled slightly to the front and the palm of the hand was bent up 90° from the elbow. The measurement was taken from between the epicondylus lateralis and epicondylus medialis points of the humerus. For the knee width, the distance between the most topped two points of inner and outer sides of articulatio genus was measured. For the arm circumferences, the measurement was taken from the most topped areas of the midpoint between acromion and olecranon. For the calf circumferences, the tape was wrapped vertically to the long axis of the leg at maximum hip thickness and the measurement was taken (9,10).

Calculation of somatotypes

Somatotype (1.2.6 trial) program designed by Heath-Carter formula was used for the calculation of somatotypes and for somatotype drawings. Anthropometric measurements such as height and weight, triceps, subscapular, supraspinale, and calf SF thickness, knee and elbow width and arm and calf circumferences were taken from each student in line with the techniques set forth by the International Biological Program (IBP) and International Society for the Advancement of Kinanthropometry (ISAK) to determine somatotype. The SFs were measured by using the baseline SF caliper (model: 12-1110) (10,11). Height and knee and elbow widths were measured using the Harpenden anthropometer set (Holtain Ltd., Crymych, Dyfed, Wales, UK). Weights were measured with Tanita body composition analyzer (BC-418 MA) device (Tanita Europe BV, Amsterdam, Netherlands) (12). Arm and calf circumferences were measured using the baseline circumference (10,11,13).

Balance measurement

Static balance was assessed utilizing the SBST protocol. To perform the SBST, participants stood with their opposite foot against the inside of the supporting knee and both hands on the hips. On the command, participants raised the heel of their foot from the floor and attempted to

maintain their balance as long as possible. The trial ended if the participant either moved his hands from his hips, the ball of the dominant foot moved from its original position, or if the heel touched the floor. This test was carried out on the dominant leg acting as the standing leg. The test was timed (s) using a stopwatch. The recorded score (duration in seconds) was the best of three attempts. Previous test–retest reliability scores for balance measures from our laboratory with a similar pediatric population have been high (14,15).

Assessment of the Q angle

The Q angle was measured from the right knee on the horizontal examination table with the subject in the supine position and the m.quadriceps femoris relaxed with both lower extremities fully extended. Measurements were made with Baseline 360 ° goniometer. Spina iliaca anterior superior, midpoint of the patella and tuberositas were marked on the tibia, with the exact midpoint of the goniometer coinciding with the midpoint of the patella. One arm of the goniometer was aligned to the anterior superior point of the spina iliaca and the other arm was aligned to the point of the tuberositas tibia and the Q angle was recorded in degree (16).

Statistical Analysis

IBM SPSS version 22.0 software (IBM Corp., Armonk, NY, USA) was used for statistical analysis. Kolmogorov-Smirnov test was used to find out whether the data were normally distributed and it was found that they were not. The data were given as median (min-max). Kruskall Wallis H test was used to compare the parameters used for demographic and somatotype measurements. In terms of somatotype in men and women, Kruskall Wallis H test was used to compare Q angle and SBST for different somatotypes.

Mann-Whitney U test was used to compare the Q-angle and SBST in terms of gender in the same somatotype between men and women. $p < 0.05$ was considered statistically significant.

RESULTS

A total of 191 individuals (105 male, 86 female) participated in this study. Based on the somatotype analysis, 7 different somatotypes were found in the participants. The somatotypes and numbers found in 105 male participants were as follows; endomorphic mesomorph (36), mesomorph-endomorph (15), balanced ectomorph (8), central (10), balanced mesomorph (16),

Tablo 1. The distribution of somatotypes and median (min-max) values of parameters used in somatotype calculations of male participants in the study

Variables	Endomorphic Mesomorph	Mesomorph Endomorph	Balanced Ectomorph	Central	Balanced Mesomorph	Mesomorphic Endomorph	Mesomorphic Ectomorph	p
Age	21 (20-23)	21 (20-25)	20.5 (19-21)	21 (20-22)	21 (20-26)	21 (20-22)	21.5 (20-24)	.385
Height	177.5 (160-194)	175 (164-188)	182 (169-190)	178 (174-187)	179 (170-187)	177 (168-185)	177 (168-185)	.149
Weight	79 (63.1-91.7)	73.9 (61.1-84.9)	59.4 (52.2-70.1)	65 (58.3-76.7)	73.4 (61.2-87.7)	77.7 (70.1-95.9)	59.4 (53.8-86)	.000
BMI*	24.8 (21.8-29.6)	23.6 (21.5-27.2)	18 (15.8-20.1)	20.7 (19-22.2)	23.4 (20-25.9)	26.1 (23.4-28.3)	19.2 (17.5-25.7)	.000
Triceps ST**	14 (3-17)	18 (9-25)	11 (3-14)	12 (7-18)	6 (3-14)	18.5 (11-28)	5.5 (3-17)	.000
Subscapular ST	15.5 (6-25)	17 (12-26)	11 (8-16)	14.5 (11-19)	10.5 (6-15)	22.5 (15-30)	9 (6-20)	.000
Supraspinale ST	13 (7-31)	18 (10-30)	10 (5-18)	12 (5-14)	8.5 (4-20)	23.5 (15-30)	8 (5-20)	.000
Calf ST	16 (7-24)	13 (5-22)	9.5 (7-15)	13.5 (8-22)	10 (6-16)	13.5 (29.5-35.5)	9 (6-19)	.002
Arm Cir***	33 (27.5-40)	32.5 (23-41)	27.2 (25-30.5)	30 (25-33)	32.2 (29-37)	31.7 (29.5-35.5)	28 (25-34)	.000
Calf Cir	38 (30.5-46)	36.5 (32-41)	32.5 (30-35)	34.5 (33-42)	36.5 (32-41)	38 (34.5-41.5)	33.7 (28-38)	.000
Elbow width	8.1 (6.4-9.5)	7.9 (7.1-8.5)	7 (5.7-8.1)	7.4 (6.6-8.5)	7.8 (7-9)	7.5 (6.9-8.6)	7.3 (6-8.8)	.006
Kneee width	10.1 (8.8-15)	9.2 (7.7-10.2)	8.6 (7.8-10)	9.3 (8.4-9.7)	10 (7.6-11.2)	8.7 (7.9-9.7)	9.8 (8.8-10.8)	.000
Endomorpy	4 (1.6-5.6)	5.1 (3.1-7.2)	3 (1.4-4.4)	3.7 (3-4.4)	2.3 (1.6-3.6)	6 (4.4-7.1)	1.8 (1.5-4.7)	.000
Mesomorphy	6.3 (4.5-9.9)	5.1 (3.6-6.8)	1.9 (1-3.4)	3.9 (3.5-4.4)	5.8 (3.7-8)	4.6 (2.9-5.4)	3.8 (2.1-4.3)	.000
Ectomorphy	1.8 (0.4-3.3)	1.9 (0.8-3.3)	5.3 (4.2-7.1)	3.6 (3.2-4.6)	2.2 (1.4-4.1)	1.4 (0.6-2.2)	4.5 (4-5.5)	.000

*Body Mass Index **ST: Skinfold thickness ***circumference

mesomorphic endomorph (10), mesomorphic ectomorph (10). The somatotypes and numbers found in 86 female participants were as follows; endomorphic mesomorph (35), mesomorph-endomorph (12), balanced ectomorph (7), central (7), balanced mesomorph (8), mesomorphic endomorph(9), mesomorphic ectomorph (8). Table 1 and Table 2 show the comparison of parameters used in the somatotype calculation of male and female participants.

Table 3 shows the comparison of the right and left Q angle for each somatotype by gender.

Table 4 shows the assessment of right and left SBST scores of all somatotypes in terms of gender. Table 5 shows the results for Q angle and SBST comparison of somatotypes.

Tablo . The distribution of somatotypes and median (min-max) values of parameters used in somatotype calculations of female participants in the study

Variables	Endomorphic Mesomorph	Mesomorph Endomorph	Balanced Ectomorph	Central	Balanced Mesomorph	Mesomorphic Endomorph	Mesomorphic Ectomorph	p
Age	21 (19-26)	21 (20-22)	21 (20-22)	20 (20-22)	21 (20-25)	21 (20-22)	21 (20-22)	.700
Height	163 (155-175)	161.5 (150-175)	167 (163-177)	160 (150-168)	161 (157-172)	163 (157-170)	169 (156-172)	.181
Weight	62.3 (53.2-91.3)	56.6 (48.4-64.9)	52.7 (42.6-56.9)	49.1 (43.7-52.3)	57.9 (46.8-64.6)	54.4 (45.1-68.4)	52.3 (37.6-58.7)	.000
BMI*	23.5 (20.4-30.3)	21 (20-22.7)	18.8 (15.5-19.8)	19.1 (18.5-19.4)	20.3 (18.3-26.2)	20.4 (18.3-25.1)	18 (15.5-20.1)	.000
Triceps ST**	10 (6-21)	15 (11-24)	8 (5-10)	10 (6-17)	7.5 (4-15)	13 (12-27)	5 (4-7)	.000
Subscapular ST	13 (9-20)	15.5 (10-26)	9 (8-13)	14 (8-16)	10 (7-19)	15 (13-21)	7.5 (6-9)	.000
Supraspinale ST	12 (6-22)	17.5 (15-24)	7 (5-10)	10 (9-15)	8 (6-20)	15 (10-17)	6.5 (4-10)	.000
Calf ST	13 (8-22)	27 (23-30)	9 (6-20)	13 (9-18)	10 (7-19)	18 (14-26)	9 (7-13)	.000
Arm Cir***	28 (24-35)	35 (33-36)	23 (20-26)	23 (21-26)	25.7 (23-29)	25 (22-28.5)	24.5 (22-25)	.000
Calf Cir	37 (33-44)	7.2 (6.3-8.2)	30 (29-36)	32 (29-35)	34.5 (32-39)	32 (28-38)	32.5 (27-36)	.000
Elbow width	7.3 (6.5-8.7)	9.2 (8.5-10.5)	6.4 (5.3-7)	6.2 (5-6.3)	6.9 (6.5-7.4)	6.7 (5.5-8)	6.3 (5.7-7.6)	.000
Knee width	10.2 (8.6-12.8)	4.6 (4.4-7.4)	8.8 (7.7-9.5)	9.2 (8.7-9.7)	9.1 (8.5-11.2)	9.4 (8.6-11)	8.8 (7.7-10.3)	.000
Endomorphy	3.8 (2.3-6)	4.9 (3.9-7.6)	2.5 (1.9-3.2)	4 (2.6-4.3)	2.7 (2.1-3.2)	4.7 (3.8-6)	1.9 (1.5-2.6)	.000
Mesomorphy	6.3 (4.2-10.5)	2.5 (0.1-3.7)	2.2 (2-2.5)	3.3 (2.9-3.8)	4.6 (4.2-6.6)	3.8 (1.9-5.2)	3.2 (2.6-3.6)	.000
Ectomorphy	1.3 (0.1-3.3)	9 (7-14)	4.3 (3.3-6.2)	3.6 (2.6-4.3)	2.9 (1.7-3.9)	2.9 (1.1-3.7)	4.7 (3.6-5.5)	.000

*Body Mass Index **ST: Skinfold thickness ***circumference

Table 3. Assessment of right and left Q angle of somatotypes in terms of gender

Somatotype	Right Q		p	Left Q		p
	Male	Female		Male	Female	
Endomorphic Mesomorph	10° (7°-14°)	9° (7°-16°)	.022	10° (8°-14°)	10° (7°-17°)	.058
Mesomorph Endomorph	10° (5°-11°)	9° (7°-14°)	.131	10° (6°-13°)	9.5° (8°-13°)	.403
Balanced Ectomorph	10° (9°-12°)	10°(4°-13°)	.536	11.5° (9°-13°)	11° (4°-12°)	.281
Central	10° (9°-14°)	10° (8°-11°)	.768	11° (9°-14°)	10° (9°-13°)	.859
Balanced Mesomorph	10° (5°-14°)	10° (9°-12°)	.928	11° (6°-13°)	11° (10°-13°)	.214
Mesomorphic Endomorph	10.5°(7°-15°)	10° (9°-13°)	.905	10.5° (8°-15°)	10° (8°-14°)	.968
Mesomorphic Ectomorph	11° (8°-13°)	9.5° (3°-13°)	.173	12° (8°-13°)	10.5° (3°-13°)	.173
p	.643	.455	p	.536	.496	

Table 4. Assessment of right and left SBST scores of somatotypes in terms of gender

Somatotype	Right Q		p	Left Q		p
	Male	Female		Male	Female	
Endomorphic Mesomorph	20 (2-178)	35 (4-360)	.104	24 (2-141)	22 (4-430)	.927
Mesomorph Endomorph	22 (1-75)	31 (2-127)	.581	27 (3-81)	42 (1-163)	.456
Balanced Ectomorph	22.5 (9-152)	41 (14-65)	.613	42 (4-211)	51 (19-76)	.536
Central	22.5 (8-86)	59 (22-77)	.513	19 (3-202)	61 (21-69)	.165
Balanced Mesomorph	28 (13-82)	54.5 (31-104)	.019	25 (4-76)	34.5 (17-120)	.177
Mesomorphic Endomorph	24.5 (7-87)	13 (4-129)	.356	9 (3-83)	19 (3-67)	.661
Mesomorphic Ectomorph	33.5 (2-49)	30 (13-93)	.965	19.5 (2-35)	33.5 (10-62)	.016
p	.678	.270	p	.699	.183	

Table 5. Kruskall Wallis H test results for Q angle and SBST comparison of somatotypes

Gender	Right Q	Left Q	Right SBST	Left SBST
Male	.643	.536	.678	.699
Female	.455	.496	.270	.183

DISCUSSION

The aim of this study is to investigate the relationship of Q-angle and SBST with somatotype in healthy young individuals. No statistically significant difference was found in Q angle and SBST results for 7 different somatotypes (p>0.05).

The muscle strength required to gain and maintain static and dynamic balance varies according to the type of posture, physical characteristics of the person, and body composition. Q angle is an important mechanism that has an important place in the balance of musculoskeletal system. Changes in the Q angle may cause deterioration of the extensor mechanism, resulting in knee joint hypermobility and patellar instability, leading to balance problems (17).

In a study by Bayraktar et al., it was reported that the decrease in Q angle values is higher in active individuals doing physical activity when compared with sedentary individuals. These findings have been associated with developmental differences by researchers, without ignoring other biomechanical factors such as pelvic width and femoral length and it has been reported that a decrease occurred in Q angle due to muscle tone and strength increase in thigh muscle group (18). In another study, it was reported that the Q angle was related to the force exerted on the patella and to the lateral by

the m.quadriceps femoris, thus lower Q angles could be encountered in athletes (19). As stated by Hahn and Foldspang, high force and muscle tone of m. quadriceps femoris muscle group decreases Q angle (1).

Thus, as the Q angle decreases, that is as the angle becomes narrower, the effect of the transmitted muscle strength will increase. In our study, Q angles of somatotypes were evaluated in young sedentary individuals and no statistically significant difference was found. This can be due to the fact that the average age of the individuals in the study was quite young. In a study examining the factors affecting posture and musculoskeletal conditions of normal and overweight individuals, it was concluded that Q angle was not affected by body mass index (BMI). In our study, it was concluded that the BMI of all somatotypes were statistically significantly different from each other and Q angle was not affected by somatotypes and BMI (20).

In the literature review conducted, somatotypes were classified as endomorphic, mesomorphic, ectomorphic in a study which aimed to determine the relationship between Q-angle and somatotype and it was reported that mesomorphic individuals had statistically lower Q-angle (21). In a study conducted by Ibikunle et al., it was reported that there were statistically significant differences in Q angle and other anthropometric measurements of individuals who were found to have endomorphic, mesomorphic, ectomorphic somatotypes and that individuals with endomorphic somatotype had high Q angle when compared with other somatotypes (22).

In a study which assessed the effect of somatotype on balance, quiet standing balance was tested using a force platform. It was reported that the balance scores of mesomorphic individuals were statistically superior to other somatotypes. In another study, which evaluated the relationship between static balance and somatotype, it was concluded that the balance scores of mesomorphic individuals were statistically better than those of other somatotypes. In our study, it found determined that there was no statistically significant relationship between balance and Q angle scores and somatotypes. The fact that 4 of the 7 different somatotypes we evaluated in the study were close to the mesomorphic somatotype character may have caused this result (23, 24). In our study, no significant relationship was found between somatotype and Q angle and balance. It can be seen that there is a limited number of studies in the literature using detailed somatotype character analysis, and there are no studies evaluating the relationship between Q angle, balance and somatotype among these studies. Studies conducted with different age groups and larger populations will help to overcome the lack of literature in this area.

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MEDICAL RECORDS-International Medical Journal

Araştırma Makalesi / Research Article

Epidemiological, Clinical, Paracinical, and Therapeutic Profile of Cancer of The Lip of the Radiotherapy Department of the Unıversity Hospital Center of Fez: About 20 Cases

Fez Üniversitesi Hastane Merkezinin Radyoterapi Bölümü Dudak Kanseri Epidemiyolojik, Klinik, Parasinik ve Terapötik Profili: 20 Vaka

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Abstract

Aim: Our study concerns 20 cases of cancer of the lips gathered in the department of radiotherapy of the University Hospital of Fes during a period of 5 years from 2012 to 2016.

Material and Methods: It is also interested in a theoretical and analytical study. The average age of our patients was 65 years old, predominantly male (86.3%).

Results: The diagnosis is usually simple, confirmed by the biopsy. The predominant histological type was spinocellular in 86.3%, consistent with literature data. The predominant seat was at the level of the lower lip at 72.8%. The treatment of this cancer had largely benefited from the progress made by reconstructive surgery using different techniques, brachytherapy and irradiation of ganglionic areas. In our series, the surgery consisted of a reasonable resection for small tumors, or an immediate repair surgery using different processes, whether they are locoregional (77.5% of cases), or processes remote (4.6% of cases).

Conclusion: Surgical treatment was an ideal solution, the results were satisfactory from a functional and aesthetic point of view. Our choice for the surgical technique depended on the tumor size, the possibilities of each flap and the case of each patient. In front of a malignant tumor of the lips, the treatment must aim at restoring the important functional quality for the swallowing, the phonation and to reconstruct the esthetic character of the lip.

Keywords: Cancer, lip, radiotherapy

Oz

Amaç: Çalışmamız, Fes Üniversitesi Hastanesi radyoterapi bölümünde 2012'den 2016'ya kadar 5 yıllık bir sürede toplanan 20 dudak kanseri vakası ile ilgilidir.

Materyal ve Metod: Ayrıca teorik ve analitik bir çalışmadır. Ağırlıklı olarak erkek (% 86,3) hastalardan oluşan çalışmamızda, yaş ortalaması 65 idi. Tanı genellikle basittir, biyopsi ile doğrulanır.

Bulgular: Baskın histolojik tip literatür verileriyle tutarlı olarak% 86.3'te spinoselülerdi. Predominant yerleşim % 72.8 ile alt dudak seviyesindeydi. Bu kanserin tedavisi, farklı teknikler kullanılarak rekonstrüktif cerrahinin brakiterapi ve ganglionik alanların ışınlanması kaydettiği ilerlemeden büyük ölçüde faydalanmıştı. Serimizde cerrahi, küçük tümörler için makul bir rezeksiyon veya lokal olarak (vakaların% 77.5'i) veya uzaktan (vakaların% 4.6'sı) farklı süreçleri kullanan acil onarım cerrahisinden oluşuyordu.

Sonuç: Cerrahi tedavi ideal bir çözümdü, sonuçlar fonksiyonel ve estetik açıdan tatmin ediciydi. Cerrahi teknik için seçimimiz tümör boyutuna, her flebin olasılığına ve her hastanın durumuna bağlıdır. Dudakların malign bir tümörünün önünde, tedavi yutma, fonlama ve dudağın estetik karakterini yeniden yapılandırmak için önemli fonksiyonel kaliteyi düzeltmeyi amaçlamalıdır.

Anahtar Kelimeler: Kanser, dudak, radyoterapi

INTRODUCTION

The cancer of the lip is a malignant tumor of origin most often dermatological and develops mainly on the cutaneous slope and the vermilion. The mucosal starting point is much rarer. The frequency of lip cancers compared to oral cancer is 6.6% [1,2], the frequency is 1.7% compared to cancer of the upper aerodigestive tract. The frequency

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is 12% compared to tumors of the head and neck [3]. The most common histological variety is spino-celullary epithelioma. The age of onset is around the sixth decade with a male predilection [4-6]. The location at the lower lip is the most common. The causes that are essentially incriminated in the development of labial cancers are sun exposure, tobacco use and chronic irritations [1,7-11]. The diagnosis is histological following a tumor biopsy. These cancers may be confusing before the anatomopathological study with several pathologies, but the real problem is posed by precancerous lesions. The usual treatment is lymph node dissection surgery, or brachytherapy, which may be currently indicated as the treatment of choice in some situations. Radiotherapy is often performed postoperatively, after anatomopathological study of the operative specimen and lymph node dissection. Tumor excision creates losses of substances that are repaired by more complex plastic surgery techniques that vary by seat and extent of loss of substance. This reconstruction aims to give the best result with a minimum of functional and aesthetic sequelae.

MATERIAL AND METHODS

Our work is a retrospective, monocentric, study of 20 cases of cancer of the lips collected in the radiotherapy department of the university hospital center of FEZ during a period of 5 years from 2012 to 2016 , Our goal is to report the different epidemiological, diagnostic, therapeutic and prognostic aspects of lip cancers and to analyze the epidemiological factors and establish the means of prevention. He is also interested in a theoretical and analytical study. Inclusion criteria were: Histologically confirmed lip cancer + exploitable records. The exploitation of the files was done by a file of exploitation which we established and containing various parameters Results: The average age was 65 years predominantly male (86.3%). Tobacco (80%) and sun exposure (45%) having a particular antecedent. The macroscopic appearance was ulcero-budding (55%), budding in 25% of cases, and ulcerated (20%) cases. The predominant histological type was squamous cell carcinoma in 84.2%, squamous cell carcinoma (15%), basal cell carcinoma (5%) (Figure 1: A, B, C and D).

The predominant seat was at the level of the lower lip at a rate of 90%. The tumor was classified as T1 in 35%, T2 in 30%, T3 in 5% and T4 in 30%. For lymph node involvement, N0 was reported in 11 cases (55%), N1 in 2 cases (10%), N2 in 5 cases (25%), N3 in 2 cases (10%) (Figure 2) and 20 cases. are non-metastatic [13].

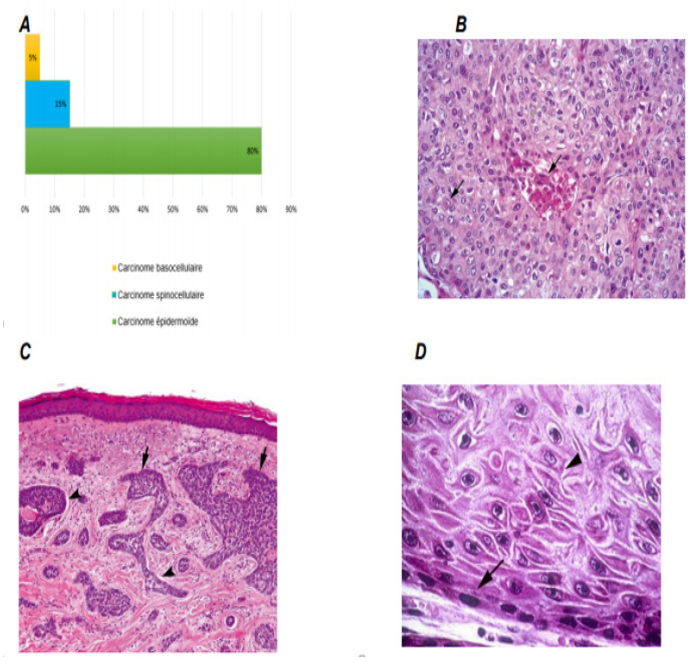
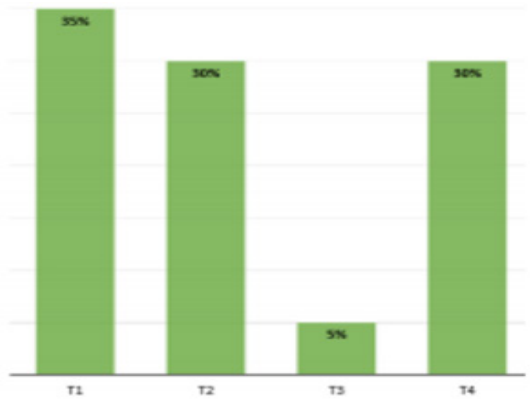


Figure 1. A= Histological types of lip cancers, B=squamous cell carcinoma: tumor proliferation with cells whose cytoplasmic boundaries are clearly visible (gray arrow) and producing keratin (black arrows), C= forming clusters of cells reminding the cells of the epidermal basal, forming a small palisade bordering (arrows) and sometimes surrounded by a retractive artifact (arrowheads), D= squamous cell carcinoma: Arrow: base of cubic cells; Arrowhead: polyhedral cells



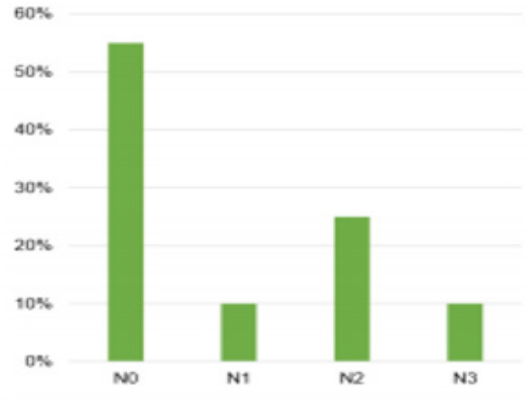


Figure 2. Percentage of each stage in our study

In our series, 13 patients underwent surgery (65%) followed by external radiotherapy (figure (3) = A, B) in 12 patients, 4 of whom received concomitant chemotherapy, and one patient received postoperative brachytherapy. The other 7 patients received only external radiotherapy, 4 of which were associated with concomitant chemotherapy.

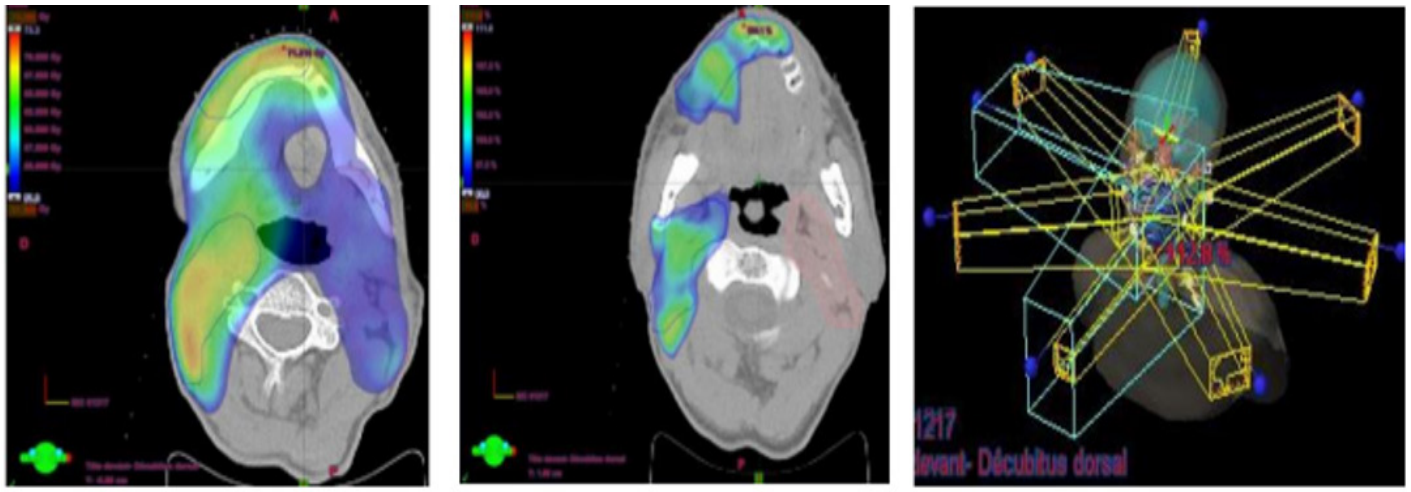


Figure 3: A= Axial tomodensitometric sections of 3 cm thick passing through the mandible and maxilla; Dose distribution for an irradiation of a patient with a lower lip cancer treated by RCMI at the radiotherapy department of the HASSAN II university center in Fez B= small fields of irradiation After a median follow-up of 20 months, 14 patients are in good locoregional control, 2 patients are progressing, and 4 patients are lost to follow-up.

DISCUSSION

At the end of our study, it appears that lip cancer is the most frequent mucosal location. The average age is 63 years [4], and between 60 and 70 [13]. The average age of onset of lip cancers in our series is 65, consistent with literature data. CE of the lips is the main carcinoma of the half-mucous membranes. It accounts for 25 to 30% of EC oral mucosa [1, 13], nearly 10% of skin cancers and 1.7% of cancers of the upper aerodigestive tract [14], such as cystic adenoid carcinomas (cylindromes) developed from submucosal accessory salivary glands, sarcomas or melanomas. Lower labial involvement is most commonly found between 80% and 98% [15,16]. In our series, lower labial localization accounted for 90% of cases. According to the TNM classification of the 1986 International Union of Cancerology Classification (IUCC), more than half of our patients are classified as T1T2: 65%. This could be explained by the fact that our patients are consulting more and more at an early stage. The distribution of our patients according to the new classification is consistent with the data of different authors. [17,18]. As far as treatment is concerned, there is currently no specific consensus and the therapeutic attitude differs from one team to another. However, surgery is recognized as the reference treatment for these tumors since it has the advantage of providing a piece of excision allowing the histological confirmation of the diagnosis and the verification of the quality of the excision. It can also cure more than 90% of patients [19, 20]. Surgical management is often delicate at the level of the lips because it is often necessary to respect margins of excision of 6 mm to 1 cm taking into account the morphological and functional features of the lips. Exeresis of the tumor may be accompanied by lymph node dissection and / or adjuvant treatment. Radiotherapy can be used for the treatment of the primary tumor but also for lymph node involvement. It can be proposed as first-line when surgery is not possible (contraindication, refusal of the patient) and when it is likely to induce major functional and / or morphological disorders. In our series, surgical excision was performed in 13 patients. Brachytherapy is the treatment of choice for most teams. The results of brachytherapy are usually favorable with a cure rate of 90 to 95% for T1, 91% for T2, while for T3 T4. Survival decreases with stage of ganglion invasion with a need for competent operator to obtain satisfactory results [16,19]. In addition, a retrospective and multicentric analysis of the results of treatment of 1870 lip cancers was published by the European group of brachytherapy, with a minimum follow-up of 2 years. The local control rate obtained with exclusive brachytherapy with iridium 192 was 98.4% for tumors classified as T1, 96.6% for T2, and 89.9% for T3 (more than 4 cm). The normal appearance of the lip was retained in 82%, 51% and 27% of patients with T1, T2 and T3 tumors, respectively. There were visible sequelae in 17%, 44% and 64% of patients and a poor aesthetic or functional result in 1.5 and 9%. The results of brachytherapy are marked by an inflammatory reaction of the lip for several weeks, impeding the diet especially in the elderly. Irradiation always concerns the lesion itself, or the tumor bed in case of primary surgery, and the ganglion

drainage areas. These two target volumes, tumor and ganglia, are irradiated with a margin of safety depending on the irradiation technique, usually of the order of one centimeter. The prognosis is a function of tumor stage, lymph node and degree of differentiation. The specific survival at 5 years is 95%, identical for small tumors after surgery or radiotherapy; for tumors larger than 3 cm, it is only 70 to 80% and only 25 to 50% for T4 [19]. The same local control is obtained by brachytherapy or surgery for T1, T2, T3, but at the cost of fewer morphological and functional sequelae after brachytherapy in very extensive lesions. The ganglionic involvement is linked to stage T: 5% of T1 and T2 have a clinical ganglionic attack against 67% of tumors greater than T2. The curability of patients N greater than N0 does not exceed 40-50%. Locoregional recurrences occur at similar frequencies after surgery or radiotherapy: in 5 to 11% of T less than 1 cm, and up to 53% of T4; 50% of patients with local or ganglionic recurrence are controlled after surgery or radiotherapy [21]. Irradiation is reserved for histologically invaded ganglionic areas (N +). The dose delivered is usually 45 Gray [21]. In our series, no patient was treated with exclusive radiotherapy. Six patients, 27% benefited from post-operative radiotherapy. Chemotherapy has a limited place in the management of EC lips, its effectiveness in the treatment of metastases seems disappointing, the response rate obtained is poor for most studies [22] The monitoring procedures are not consensual, however, it must be reconciled during the first five years since 95% of local recurrences and metastases are detected during this period [19, 23]. The rate of tumor recurrence ranges from 2.8 to 30.3% [24,25]. In our study it was 10%. It seems weaker than in the literature series and this can be explained by the short duration of follow-up and the large number of patients lost to follow-up. In fact, only 14 patients were followed (70%). The overall survival rate of EC lipid at 5 years, varies from 79 to 83.3% [26,27] according to the series; this rate was evaluated at 90% in our study within the limits of the duration of follow-up.

CONCLUSION

Radiotherapy and surgery are the reference treatments. The therapeutic decision is the result of a multidisciplinary consultation between experienced practitioners. In favor of brachytherapy, we retain the good quality of healing in the absence of tissue defect.

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MEDICAL RECORDS-International Medical Journal

Olgu Sunumu / Case Report

Mucoepidermoid Carcinoma of the Carina

Karinanın Mukopidermoid Karsinomu

Fadwa Allouche, Rajae Ennouichi, Fatima Zahra Terrab, Zineb Alami, Touria Bouhafa, Khalid Hassouni

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Abstract

Mucoepidermoid carcinomas are part of a rare group of malignant lung tumors. These tumors are most often found in young subjects. The growth of the tumor is usually endo-bronchial and concerns large bronchi. The histopathological appearance reveals cells producing mucus, epithelial cells and mixed cells. In this paper, we report the case of a 48-year-old man with a lateralized right lateral carcinoma tumor, which after endo-bronchial resection was found to be a pulmonary mucoepidermoid carcinoma. The patient underwent a complete excision of the hull enlarged tumor mass with angular section and V-plasty. She is currently in remission after a follow-up of 84 months. No standard treatment is defined for these tumors. The prognosis depends on the histological grade, and can, especially in the elderly, be very pejorative.

Keywords: Mucoepidermoid, carcinoma, carina

Oz

Mukopidermoid karsinomlar, nadir görülen bir malign akciğer tümörü grubunun parçasıdır. Bu tümörler en sık genç denekte bulunur. Tümör büyümesi genellikle endo-bronşiyaldir ve büyük bronşlarla ilişkilidir. Histopatolojik görünüm, mukus üreten hücreleri, epitel hücreleri ve karışık hücreleri ortaya çıkarır. Bu yazıda lateralize sağ lateral karsinom tümörü olan 48 yaşındaki bir erkeğin endo-bronşiyal rezeksiyon sonrası pulmoner mukopidermoid karsinomu olduğu bulundu. Hastaya açısal kesit ve V-plasti ile gövde genişlemiş tümör kitlesinin tam eksizyonu yapıldı. 84 aylık takipten sonra hala remisyonda. Bu tümörler için standart bir tedavi yoktur. Prognoz histolojik dereceye bağlıdır ve özellikle yaşlılarda çok küçük düşürücü olabilir.

Anahtar Kelimeler: Mukopidermoid, karsinom, karina

INTRODUCTION

Muco squamous cell carcinoma is a malignant tumor usually occurring in the salivary glands. According to the World Health Organization, this tumor histopathologically is composed in different proportions of cells producing mucus, epithelial cells and mixed cells. Primary tumors of the salivary gland type are very rare in the thorax and constitute 0.1 to 0.2% of malignant lung tumors (1-2). The age of onset is between three months and 78 years with an average age of 40 years. The treatment of choice is surgical removal. Complete resection of tumors of low-grade malignancy ensures a favorable prognosis; on the other hand, tumors of high grade of malignancy more often give a local recurrence associated with a high metastatic risk (3). In this work, the authors report the case of a 48-year-old man treated for an endo-bronchial tumor that was found to be a low-grade malignant bronchial carcinoma of the bronchial carcinoma.

CASE PRESENTATION

This is a Mr XY aged 48, chronic smoking with occasional ethylism and no personal or family neoplastic antecedent. The symptomatology dates back to 5 months before admission by the installation of a right thoracic pain resistant to the usual analgesic treatments, associated with a dry cough and episodes of hemoptysis of low abundance. Everything evolves in a context of slimming without encryption. Thoracic computed tomography showed post-lateralized carini mass tissue to the right of tissue density, enhancing after 16x12x7mm contrast

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medium intimately surrounding the azygos bronchus, without mediastinal adenopathies (Figure 1), thoracic MRI revealed a mass retrocarinar mediastinum. The preoperative extension assessment was normal.

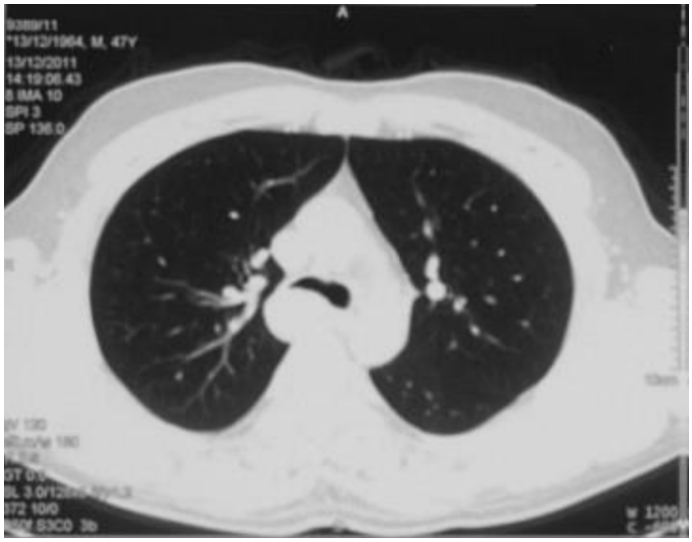

Figure 1. thoracic computed tomography showing a retrocollated tissue mass lateralised to the right of tissue density intimately surrounding the azygos bronchus

Bronchoscopic bronchoscopy was performed under general anesthesia and the histopathological analysis of the specimens was non-contributory. In order to confirm the histological nature of this mass, whose tumor origin is very likely, a thoracotomy for diagnostic and therapeutic purposes was performed posterolaterally, allowing complete excision of the enlarged tumor mass at the hull with angular section and plasty. The postoperative diagnosis was in favor of a non-small cell lung carcinoma of the muco-epidermoid histological type classified as having a low grade of malignancy (Figure 2). In spite of the fact that the cut is healthy during surgery and that the tumor fuse posteriorly and is doubtful about taking this extension entirely in the cut, adjuvant radiotherapy has been indicated.

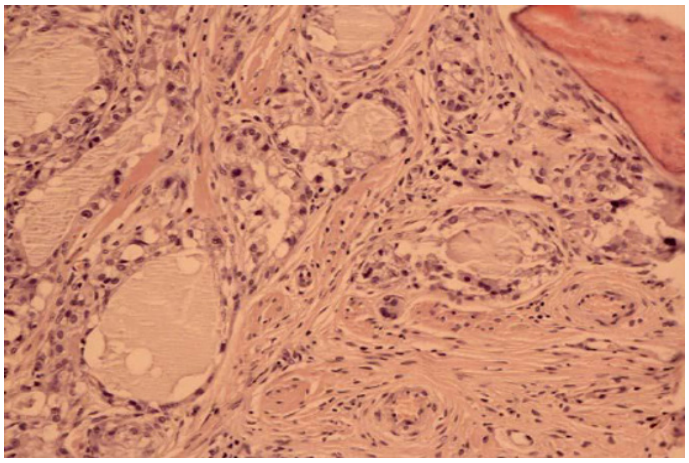

Figure 2. Mucoepidermoid carcinoma - histopathological appearance (hematoxylin eosin × 200)

The patient received a TEN on the tumor bed: 50 Gy in 25 sessions of 2 Gy over 5 weeks with good tolerance, The 84-month follow-up.

Figure 3. Dosimetric study of mucosal squamous cell carcinoma of the carina on 3mm axial scan sections passing through the carina and the bronchial tubes

DISCUSSION

Bronchial mucoepidermoid carcinoma was first described in 1952 by Smetana et al (4-5), but it must be taken into account that the diagnostic means of the 1950s probably did not allow the distinction between muco-epidermoid tumor. primitive or secondary. Since then, we find descriptions of isolated cases or collected in small series. About 1 to 5% of endo-bronchial adenomas appear to be mucoepidermoid carcinomas (5-6). In the majority of cases, as described above, this type of neoplasia is found in the large airways: bronchial tubes, lobar bronchi, segmental bronchi; they are found exceptionally in the distal bronchial tree (1-5-7). In our study mucoepidermoid carcinoma is found in the right bronchus strain.

The symptoms observed are related to airway obstruction and may be in the form of pneumonia, chronic cough, dyspnea, wheezing or hemoptysis (1,3,6). In the literature, coexistence of this disease is sometimes reported with congenital agenesis of a pulmonary lobe (5-8). Our patient had a dry cough, dyspnea on exertion and two episodes of haemoptysis. Because of the location of the tumor, which is usually central, standard radiography usually shows no signs of abnormality until complications such as lobar pneumonia or atelectasis appear (9). On tomodensitometric examination, it is possible to discover an oval opacity, well limited, of lobular aspect; the enhancement of nodules after injection of contrast medium is rather moderate and can be found punctate calcifications (5-8). Mucoepidermoid carcinoma is rare at the bronchial level, so the possibility of pulmonary metastases of primary tumors of the salivary glands must be taken into account. In our case, thoracic CT showed a posterior retrocollated tissue mass right tissue density intimately surrounding the azygous bronchus.

Given the localization, the diagnostic examination of choice is flexible bronchoscopy (3-6). Nevertheless, since the localization is very often submucosal and the histological aspect resembles the other endobronchial pathologies, the diagnosis based on superficial samples can give inaccurate information. The rarity of the tumors, the history, the macroscopic appearance and the limited size of the biopsies can influence the diagnosis made by the anatomopathologist. There are two histological forms of mucoepidermoid carcinoma of the lung. In 95% of cases, they are tumors of low grade of malignancy. They are characterized by a rather low rate of local and systemic recurrences; the five-year survival rate in this group is 80%. The high-grade form of malignancy with a five-year survival rate of 30% is often difficult to differentiate from adenosquamous bronchial cancers (5-8).

Surgical removal of the tumor appears to be the most effective means of treatment for this type of neoplasia and achieves a high level of survival (several years) without local recurrence and without distant metastases (5-8). In case of incomplete resection, postoperative radiotherapy can be performed for the purpose of locoregional control, but there is no clinical trial on the benefit of this postoperative radiotherapy (9). the treatment of inoperable or relapsed metastatic forms is not codified and relies on paclitaxel-based systemic chemotherapy with low sensitivity to platinum salts. The advent of targeted therapies has opened the door to a cure for inoperable forms. Mararenco found strong expression of EGFR on 12 bronchial CMEs and one trial tested cetuximab (monoclonal antibody targeting the extracellular domain of EGFR) in combination with platinum-based chemotherapy on 22 salivary gland tumors. CME, the response rate was about 50% at 6months. Hyperexpression of HER 2 is found in 21% of CMEs with some cases of trastuzumab stability, but at present there is no chemotherapy or targeted therapy that has been shown to be effective in the treatment of bronchial CME (10).

Low-grade tumors should be treated as conservatively as possible, as opposed to high-grade tumors with a pejorative course (11). In our case, the patient underwent a complete excision of the hull enlarged tumor mass with angular section and V plasty, even if it is classified as low grade malignancy. So far, there is no sufficient scientific data to confirm the efficacy of treatment of Mucoepidermoid Carcinoma of the lung by radiotherapy and chemotherapy.

CONCLUSION

Mucoepidermoid carcinomas are rare endo-bronchial tumors. The radio-clinical presentation is nonspecific. No standard treatment is defined for these tumors. The prognosis depends on the histological grade, and can, especially in the elderly, be very pejorative hence the need to discuss the therapeutic management of CPR and the census of these rare tumors must be made within the framework of the taking into account. charge of orphan tumors.

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MEDICAL RECORDS-International Medical Journal

Olgu Sunumu / Case Report

Patient With Undiagnosed Chronic Portal Vein Thrombosis Presented As Intestinal Obstruction A Case Report

İntestinal Obstruksiyon Bulguları ile Başvuran Hastada Tanı Almamış Kronik Portal Ven Trombüsü: Olgu Sunumu

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Abstract

Portal vein thrombosis (PVT) is a rare condition in general population whereas is commonly seen in cirrhotic patients. Patients can be presented with portal hypertension symptoms however this clinical situation can be asymptomatic for years. Blood tests and radiologic tests are helpful on the way of diagnosis and anticoagulants are usually used for the treatment.

A 59 year-old male with no comorbid diseases and the history of previous abdominal surgery, applied to emergency clinic with symptoms of intestinal obstruction and hospitalized with the presumptive diagnosis of ileus. According to labaratory and radiologic tests, patient was diagnosed with chronic portal vein thrombosis and started on anticoagulant treatment.

Although chronic portal vein thrombosis is an uncommon pathology in general population, we should consider this pathology in patients presented with symptoms of intestinal obstruction.

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Keywords: Chronic portal vein thrombosis, ileus, pathology

Oz

Portal ven trombüsü sirozlu hastalarda sık görülen bir patoloji olmakla beraber genel populasyonda nadir görülen bir bulgudur. Bu klinik bulgu yıllarca asemptomatik seyredebileceği gibi hastalar portal hipertansiyon semptomları ile de başvurabilmektedir. Kan testleri ve radyolojik testler tanıda yardımcı olmakla beraber tedavide sıklıkla antikoagulanlar kullanılmaktadır.

59 yaşında erkek hasta bilinen kronik hastalığı ve geçirilmiş abdominal cerrahi öyküsü olmayıp acil servise intestinal obstruksiyon bulguları ile başvurmuş ve ileus ön tanısı ile izlem amacıyla hospitalize edilmiştir. Laboratuar testleri ve radyolojik testler doğrultusunda hastaya kronik portal ven trombusü tanısı konmuş olup hastaya antikoagulan tedavi başlanmıştır.

Her ne kadar kronik portal ven trombusü genel populasyonda nadir görülen bir hastalık olsa da intestinal obstruksiyon semptomları ile başvuran hastalarda akılda bulundurulması gereken bir patolojidir.

Anahtar Kelimeler: Kronik portal ven trombüsü, ileus, patoloji

INTRODUCTION

Portal vein thrombosis (PVT) is defined as the complete or partial obstruction of blood flow in portal vein due to the presence of a thrombus in the vessel lumen (1). PVT is a rare condition in general population whereas its prevelance is found to be between 4.4-15% in cirrhotic patients (2). Although several ethiological factors are identified according to their systemic or local origins, more than one factor is often present (Table 1-2) (3,4).

PVT can be completely asymptomatic or patients can apply with the symptoms such as abdominal pain, diarrhea, rectal bleeding, abdominal distention, nausea and vomiting. PVT is usually diagnosed with computer tomography (CT) scans and anticoagulants such as low weight molecular heparine is used in treatment. Here we present a patient with bowel obstruction symptoms and diagnosed with chronic PVT.

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Tablo 1. Local risk factors for PVT (70%) (3)
Cancer
Any abdominal organ
Focal inflammatory lesions
Neonatal omphalitis, ombilical vein catheterization
Diverticulitis, appendicitis
Pancreatitis
Duodenal ulcer
Cholecystitis
Tuberculous lymphadenitis
Crohn's disease, ulcerative colitis
Cytomegalovirus hepatitis
Injury to the portal venous system
Splenectomy
Colectomy, gastrectomy
Cholecystectomy
Liver transplantation
Abdominal trauma
Surgical portosystemic shunting, TIPS
Iatrogenic (fine needle aspiration of abdominal masses etc.)
Cirrhosis
Preserved liver function with precipitating factors (splenectomy, surgical portosystemic shunting, TIPS dysfunction, thrombophilia)
Advanced disease in the absence of obvious precipitating factors

Tablo 2. Systemic risk factors for PVT (30%) (3)
Inherited
Factor V Leiden mutation
Factor II (prothrombin) mutation
Protein C deficiency
Protein S deficiency
Antithrombin deficiency
Acquired
Myeloproliferative disorder
Antiphospholipid syndrome
Paroxysmal nocturnal hemoglobinuria
Oral contraceptives
Pregnancy or puerperium
Hyperhomocysteinemia
Malignancy

CASE PRESENTATION

A 59 year-old male applied to our hospital with generalised abdominal pain, constipation, nausea and vomiting ongoing for one day. The patient did not have any comorbid diseases or the history of previous surgery. On physical examination, the patient had tenderness in all quadrants of abdomen whereas no defence or rebound was detected and patient's rectal examination was normal. Following the physical examination, labaratory tests including complete blood count (CBC), biochemical and radiologic tests were analysed. Labaratory results were found to be normal nevertheless air-fluid level image was demonstrated on upright films of abdominal x-ray. CT scans showed increased intestinal segment calibrations, air-fluid levels and thinned intestinal bowel walls, however there was no sign of mechanical obstruction seen in any intestinal segment (Figure 1).

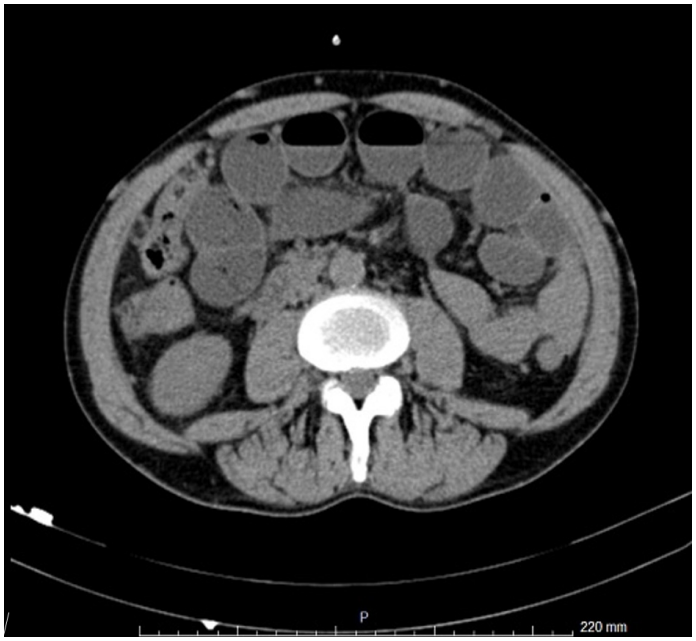

Figure 1. Increased intestinal segment calibrations, air-fluid levels, thinned intestinal bowel walls in CT scan

As a result of these tests patient was hospitalized with the diagnosis of ileus. Patient's oral intake was stopped and nasogastric tube was performed. Medical treatment was started with intravenouse hydration and low weight molecular heparine for prophylaxis of deep vein thrombosis. With suspicion of mesenteric ischemia, patient underwent abdominal CT angiography which demonstrated increased collateral vein formations and cavernous transformations at hilum of the liver. Partial occlusion of superior mesenteric vein was also detected whereas no evidence of ischemia in intestinal segments was found (Figure 2).

According to these imaging tests, patient was diagnosed with chronic portal vein thrombosis and continued on anticoagulant medication. Portal doppler ultrasound was performed which revealed no enlargement of liver and spleen, and no cirrhotic findings. Protein C, Protein S and

Factor V Leiden mutation tests were analyzed to define the etiology of chronic portal vein thrombosis and found to be normal. On patient's follow-up day 3, with regression of air-fluid levels on upright films of abdominal x-ray, oral intake was started with liquids and patient tolerated well. On follow-up day 5 the patient was discharged with anti-coagulant treatment.

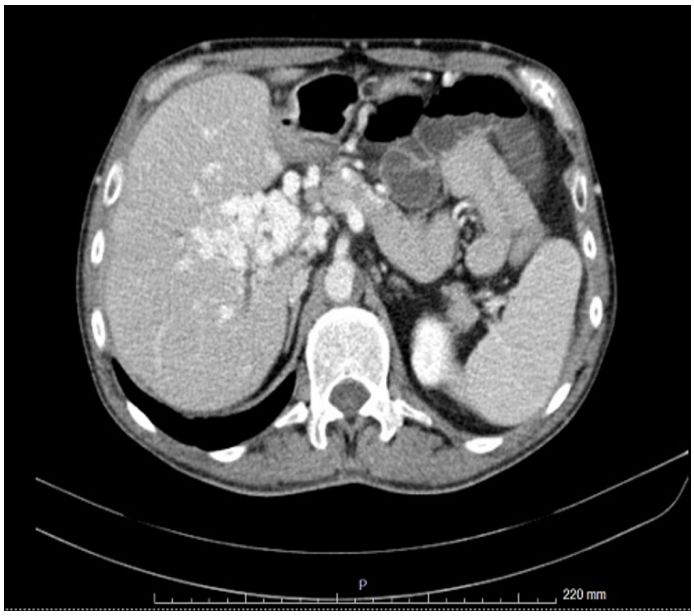

Figure 2. Cavernous transformations at hilum of the liver

DISCUSSION

Portal vein thrombosis (PVT) is a rare condition in general population and can be classified as acute or chronic. In chronic PVT although patients can be presented with portal hypertension and splenomegaly symptoms, they can be asymptomatic for years through the compensatory mechanisms. Portal hypertension can cause blood accumulation in intestinal walls therefore patients can present with intestinal obstruction symptoms. Increased liver function tests and pancytopenia can be seen in Labaratory tests. PVT is usually diagnosed with CT scans and gastroscopy should be performed to exclude the presence of esophageal varicosis. Anticoagulants are usually used in treatment and if thrombosis is recent and there is no underlying thrombophilic condition, anticoagulants should be administered for 3-6 months to enhance complete portal vein recanalization. On the other hand, only 30% of patients with chronic PVT can be treated with anticoagulants. In patients unresponded to treatment of anticoagulants, thrombolytic therapy can also be given. Invasive procedures such as transjugular intrahepatic portosystemic shunt, distal splenorenal shunt and Rex shunt can also be performed as the last option (3).

CONCLUSION

Portal vein thrombosis (PVT) is a rare condition in general population and can be asymptomatic for years through the compensatory mechanisms. Although ileus is often seen in emergency patients PVT can be missed on the way of diagnosis. Surgeons must me bare in mind this diagnosis for preventing the wrong treatment.

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