

EVALUATION OF TICK BITES ACCORDING TO ANATOMICAL REGIONS ON HUMANS IN THE LIGHT OF THE STUDIES IN TURKEY

TÜRKİYE'DEKİ ÇALIŞMALAR IŞIĞINDA İNSANLARDAKİ KENE TUTUNMALARININ ANATOMİK BÖLGELERE GÖRE DEĞERLENDİRİLMESİ

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ÖZET

Keneler ve kene kaynaklı hastalıklar dünya çapında büyük bir öneme sahiptir ve keneler kan emerek ve aynı zamanda protozoon, bakteriyel, riketsiyal, spiroketal ve viral etkenleri naklederek hayvan ve insan sağlığını etkilemektedir. Bu çalışmanın amacı Türkiye'de insanlarda kene tutunma vakalarını anatomik bölgelere göre geçmişe dönük olarak değerlendirmektir. 4413 kene tutunma vakasının taranması sonrası, birçok tutunmanın sırasıyla alt ve üst ekstremiteler, kranium-servikal bölge, toraks-abdomen ve genital-inguinal bölgelerinde ve aynı zamanda daha az olarak konjonktiva, göz kapağı ve dış kulak yolunda görüldüğü gösterilmiştir. Kenelerin insanların bazı vücut bölgelerini diğer bölgelerine kıyasla tutunmak için daha sık tercih etmesinden dolayı, ekstremiteler, kranium-servikal bölge, toraks-abdomen ve genital-inguinal gibi bazı vücut kısımlarının endemik bölgelerde öncelikli olarak muayene edilmesi önerilmektedir.

Anahtar Kelimeler: Kene, Tutunma, Anatomik bölge, Türkiye

SUMMARY

Ticks and tick-borne diseases have a great importance worldwide and they affect animal and human health by sucking blood and also transmitting protozoan, bacterial, rickettsial, spirochethal and viral agents. The purpose of this study is to evaluate tick bite cases on humans with respect to anatomical regions retrospectively in Turkey. After screened 4413 tick bite cases, it was shown that most of bites were seen on lower and upper extremities, cranium-cervical region, thorax-abdomen and regio genitalia-inguinalis respectively, and also conjunctiva, palpebra and meatus acusticus externus are the regions of tick bite cases were seen less. Since ticks prefer frequently some of the body regions for attachment comparing to other regions on humans, it is suggested that some body parts like extremities, cranium-cervical region, thorax-abdomen and regio genitalia-inguinalis should examine primarily in endemic areas.

Key words: Tick, Attachment, Anatomical region, Turkey

TO THE EDITOR

Ticks and tick-borne diseases (TBDs) pose a great threat to public health because they can cause serious and fatal conditions. Ticks are obligate hematophagous arthropods that parasitize every kind of vertebrates in almost every region of the world and can cause anemia, toxication, paralysis, irritation, allergy and also secondary infection because of skin lesion. Ticks are biological and mechanical vectors of varies viral, bacterial, rickettsial, spirochethal, protozoan and helminthic diseases^{1,2}.

Crimean-Congo Hemorrhagic Fever (CCHF) is one of the most popular TBDs all over the world including Turkey. The disease is an important public health issue in Turkey because of its mortality rate and wide distribution³.

Increasing studies are being conducted about ticks in Turkey where the people are under risk of CCHF and other vector-borne diseases. These studies focused on epidemiology of TBDs^{4,5}, seasonal activity and distribution of ticks^{6,7} generally. Someone who traveled in endemic areas for ticks and TBDs should take precaution to protect him/herself against to ticks. After diagnosed first case of CCHF in Turkey in 2002, many people applied to the emergency services of hospitals with complaints of tick bite particularly during summer months. Duration of tick attachment and sucking blood time on body can increase likelihood of transmitting diseases⁸. Because of these reasons we must know which anatomic regions are preferred by ticks for

attachment. To our knowledge, this is the first study that has evaluated tick bite cases according to anatomical regions on humans respectively in Turkey.

We screened tick bite cases in literature in Turkey. According to literature it was seen that anatomical regions were explained in 4413 cases for tick bites. Results were evaluated for anatomical regions as percentage. Most of the tick bites were seen on pars

membrum superioris and inferioris 1758 (39.83%), cranium- cervical region 973 (22.04%), thorax and abdomen 924 (20.93%), regio genitalia / inguinalis 447 (10.12%) and rarely on regio dorsalis / omos 88 (1.99%), regio axillaris 80 (1.81%), auricula 55 (1.24%), regio pedis 37 (0.83%), gluteal region 36 (0.81%), palpebra 7 (0.15%), meatus acusticus externus 7 (0.15%) and conjunctiva 1 (0.02%) (Table 1)⁹⁻³⁴.

Table 1: Distribution of tick bites on humans according to anatomical regions in Turkey

Cranium- Cervical Region	Anatomic Region														Total	References
	Palpebra	Conjunctiva	Auricula	Meatus acusticus externus	Pars membrum superioris	Pars membrum inferioris	Regio pedis	Gluteal region	Thorax	Abdomen	Regio dorsalis / Omos	Regio axillaris	Regio genitalia/inguinalis			
77	-	-	42	-	12	43	-	7	38	16	-	13	37	285	9	
-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	10	
11	3	-	6	-	8	72	-	9	20	6	4	14	15	168	11	
-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	12	
31	-	-	-	-	24	62	-	7	10	15	5	-	7	161	13	
5	1	-	3	-	9	-	36	-	1	-	6	-	2	63	14	
-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	15	
1	-	-	-	-	-	-	-	-	-	-	1	-	-	2	16	
-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	17	
-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	18	
-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	19	
1	-	-	-	-	-	-	-	1	-	-	-	-	-	2	20	
-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	21	
1	1	-	-	-	-	-	-	-	-	-	-	-	-	2	22	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	23	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	24	
-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	25	
5	1	-	-	-	2	7	-	-	4	-	-	-	-	19	26	
109	-	-	-	-	47	80	-	-	47	-	20	47	47	350	27	
42	-	-	4	2	68	86	-	-	46	72	-	4	4	324	28	
-	-	-	-	4	-	-	-	-	-	-	-	-	-	4	29	
33	-	-	-	-	132	104	-	12	102	-	-	27	410	30		
31	-	-	-	-	21	-	-	-	18	-	-	-	70	31		
96	-	-	-	-	38	-	-	-	53	-	33	33	253	32		
502	-	-	-	-	908	-	-	-	523	-	-	253	2186	33		
26	-	-	-	-	34	-	-	-	25	-	-	19	104	34		
973	7	1	55	7	1758	37	36	36	924	88	80	447	4413	Total		
22,04	0,15	0,02	1,24	0,15	39,83	0,83	0,81	0,81	20,93	1,99	1,81	10,12	100	%		

In conclusion, tick bite cases in Turkey were completely evaluated firstly according to anatomical regions and it is suggested that extremities, cranium-cervical region, thorax-abdomen and regio genitalia-inguinalis should examine for ticks primarily in endemic areas in Turkey

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