

RETROSPECTIVE STUDY ON BODY SURFACE ABSCESES IN FARM ANIMALSMISK T.N.¹; EL-SHERRY T.² and MISK N.A.³¹ Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Sadat City University, Sadat City, Menofia, Egypt.² Department of Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.³ Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.**Received:** 30 December 2019; **Accepted:** 23 January 2020**ABSTRACT**

The aim of the present study is to determine the predilection seats of body surface abscesses in some farm animals, their relations to the way of entrance of infection as well as the methods of surgical treatment, fate and complications. The present study was carried out on a total number of 790 animals (buffaloes = 131, cattle = 240, sheep = 230, goats = 81, donkeys = 64, horses = 17 and camels = 27) suffering from presence of abscesses at different localities on the body surface. All cases were recorded during field trips to villages of 27 provinces all over Egypt from 2003 – 2018. Diagnosis was established depending on case history, clinical signs and exploratory puncture. Surgical treatment was performed either by incision of the abscess wall and evacuation of the contents or by total excision. Results indicated that abscesses were detected at the parotid region in 129 animals (16.33%), mandibular region in 120 animals (15.19%), sub-conjunctival in 36 animals (4.56%), cheek region in 33 animals (4.18%), ear region in 10 animals (1.27%), neck region in 47 animals (5.95%), thoracic limbs in 72 animals (9.11%), thoracic wall behind the elbow in 34 animals (4.30%), abdominal wall in 60 animals (7.59%), umbilical region in 68 animals (8.61%), gluteal region in 45 animals (5.70%), pelvic limbs in 102 animals (12.91%), tail region in 16 animals (2.03%) and vulvar lips in 5 animals (0.63%). The results also revealed that the ways of entrance of infection include; breach on the surface of the skin, migrating foreign bodies from the lumen of the digestive tract, iatrogenic by using non-sterilized needle for intramuscular injection, punctured wounds by infected foreign bodies and blood and lymph borne infection. Solitary abscesses were recorded in 682 animals (86.33%) while multiple abscesses were diagnosed in 108 animals (13.67%). Surgical treatment was performed by incision and evacuation of abscesses in 686 animals (86.84%) and by total excision in 104 animals (13.16%). Considering the fate of cases after surgical treatment; 589 animals (74.56%) recovered after the first surgical interference, 66 animals (8.35%) recovered after the second surgical interference after management of complications, 43 animals (5.44%) were culling either by slaughtering or euthanasia and 92 animals (11.65%) the fate was not recorded postoperatively.

Key words: Abscesses, farm animals.

INTRODUCTION

Abscess is the most common swelling observed on the skin surface of animal body. It is a collection of pus that hollow out a cavity in the tissues by destroying and expanding them. The invading micro-organisms gain entrance into the animal body through a breach in the skin or mucous membrane or transmitted passively into tissues incorporated with infected foreign bodies. Many infectious diseases are characterized by formation of

either superficial abscesses underneath the skin or deep abscesses inside tissues and body organs. But is the end result of a war established between the invading pyogenic microorganisms and living tissues and cells. It is consisting of a dead and living polymorph nuclear leucocytes, cellular debris, pyogenic microorganisms, lymph and serum (Fubini *et al.*, 2004; Abouelnasr *et al.*, 2016; Sadan *et al.*, 2019 and Misk *et al.*, 2019).

The aim of the present study is to determine the predilection seats of body surface abscesses in some farm animals, their potential causes as well as the methods of surgical treatment, fate and complications after treatment.

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MATERIALS AND METHODS

The present study was carried out on a total number of 790 animals suffering from presence of abscesses on body surface. All cases were recorded and managed during field trips to villages of 27 provinces all over Egypt during the period from 2003 to 2018. Diagnosis was established depending mainly on case history and clinical presentation of cases. Exploratory puncture was performed for confirmation of diagnosis. The surgical treatment was adopted by either performing a surgical incision through the abscess wall and evacuation of the contents or by total excision of abscesses. The follow up period was extended up to two months. The Predilection seats of abscesses were registered in all examined animals which include; buffaloes (n = 131), cattle (n = 240), sheep (n = 230), goats (n = 81), donkeys (n = 64),

horses (n = 17), and camels (n = 27). The suspected way of infection was recorded according to the case history, clinical signs and findings during surgery.

The criteria for selecting and analyzing data were; frequency of occurrence of abscesses in animal species, predilection seats of abscesses, potential causes, surgical treatment options either by evacuation of abscesses contents after incision or by en bloc excision of the abscesses, recorded complications and finally, the fate after treatment.

RESULTS

1- The number of affected animals and the predilection seats of body surface abscesses were summarized in table 1 and Figs 1 and 2.

Table 1: Number of affected animals and the predilection seats of body surface abscesses.

N	Animals Regions	Buffaloes		Cattle		Sheep		Goat		Donkey		Horse		Camel		Total
			%		%		%		%		%		%			
1	Parotid region	5	3.8	7	2.9	76	33	24	29.6	12	18.8	0	0	5	18.5	129
2	Mandibular region	4	3.1	17	7.1	55	23.9	16	19.8	20	31.3	8	47.1	0	0	120
3	Sub-conjunctival	16	12.2	15	6.3	3	1.3	1	1.2	1	1.6	0	0	0	0	36
4	Cheek region	15	11.5	11	4.6	3	1.3	4	4.9	0	0	0	0	0	0	33
5	Ear region	0	0	0	0	3	1.3	2	2.5	4	6.3	0	0	1	3.7	10
6	Neck region	7	5.3	14	5.8	15	6.5	3	3.7	5	7.8	0	0	3	11.1	47
7	Thoracic limbs	12	9.2	29	12.1	14	6.1	6	7.4	7	10.9	2	11.8	2	7.4	72
8	Chest wall behind the elbow	15	11.5	14	5.8	5	2.2	0	0	0	0	0	0	0	0	34
9	Abdominal wall	12	9.2	5	2.1	24	10.4	5	6.2	3	4.7	5	29.4	6	22.2	60
10	Umbilical region	25	19.1	34	14.2	7	3	2	2.5	0	0	0	0	0	0	68
11	Gluteal region	13	9.9	23	9.6	2	0.9	2	2.5	2	3.1	0	0	3	11.1	45
12	Pelvic limbs	6	4.6	61	25.4	10	4.3	11	13.6	8	12.5	2	11.8	4	14.8	102
13	Perineal region	1	0.8	5	2.1	2	0.9	5	6.2	0	0	0	0	0	0	13
14	Tail region	0	0	2	0.8	11	4.8	0	0	0	0	0	0	3	11.1	16
15	Vulvar lips	0	0	3	1.3	0	0	0	0	2	3.1	0	0	0	0	5
	Total	131		240		230		81		64		17		27		790
	%	16.5		30.4		29.1		10.3		8.1		2.2		3.4		

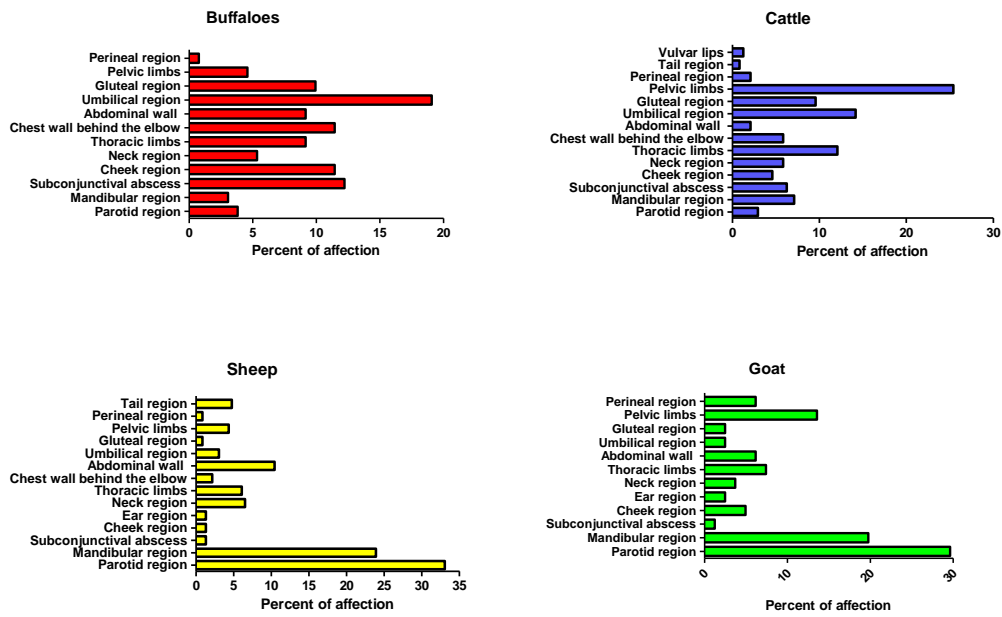


Fig. 1: The percent of affected Cattle, Buffalo, Sheep, and Goat in relation to the seat of body surface abscesses.

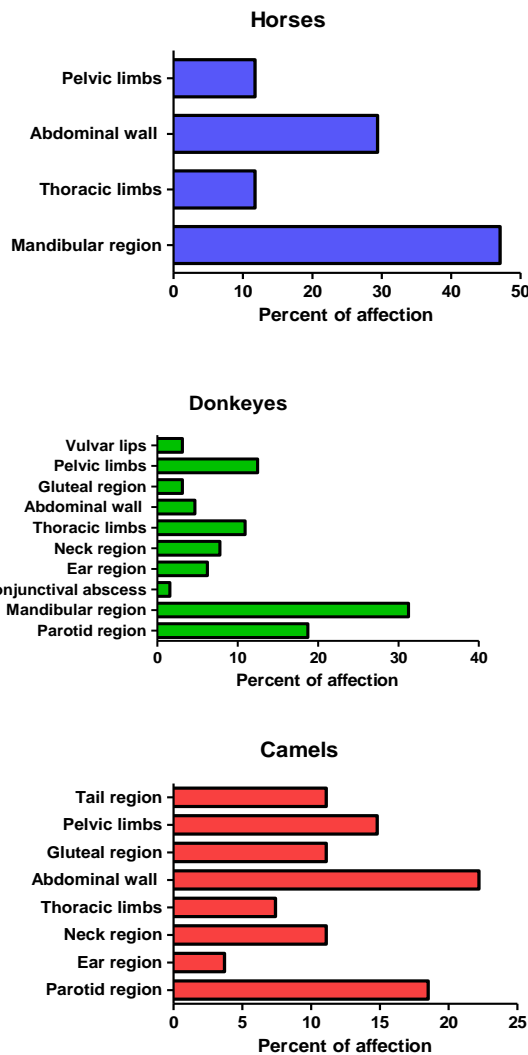


Fig. 2: The percent of affected horses, donkeys, and camels in relation to the seat of body surface abscesses.

2- The potential causes of abscesses in relation to different predilection seats (table 2).

The ways of entrance of infection were suspected because it is impossible to know accurately the way for infection of each case alone.

Table 2: the Potential causes of abscesses in relation to predilection seats.

No	Region	Potential causes
1	Parotid region	- Lymph-borne infection. - Skin breach.
2	Mandibular region	- Migrating infected foreign body from the mouth cavity. - Lymph-borne infection. - Blood - borne infection.
3	Sub-conjunctival (s/c)	- Entrance of infection S/C by infected foreign body.
4	Cheek region	- Oral abrasions and punctures associated with dental disease or hard plant awns, etc.
5	Neck region	- Lymph-borne infection. - Skin breach or trauma.
6	Ear region	- Skin breach.
7	Thoracic limbs	- Lymph-borne infection. - Complications of lumpy skin disease.
8	Chest wall behind the elbow	- Migrating foreign bodies from the reticulum.
9	Abdominal wall	- Skin breach.
10	Umbilical region	- Infection of the Umbilicus.
11	Pelvic limbs	- Complications of Lumpy skin disease.
12	Gluteal region	- Intra-muscular injection via infected needle.
13	Perineal region	- Skin breach. - Penetrating foreign bodies.
14	Tail region	- Skin breach. - Penetrating foreign bodies.
15	Vulvar lips	- Skin breach. - Penetrating foreign bodies.

3- The frequency of occurrence of solitary (S) and multiple (M) abscesses in different animal species (table 3)

Solitary abscesses were observed in a total number of 682 animals (86.33%) while animals affected by multiple abscesses were 108 (13.67%).

Table 3: The classification of affected animals with body surface abscesses into solitary abscesses or multiple abscesses.

Animals Regions	Buffaloes		Cattle		Sheep		Goats		Donkeys		Horses		Camels		Subtotal		Total
	S	M	S	M	S	M	S	M	S	M	S	M	S	M	S	M	
Parotid region	5	--	6	1	50	26	14	10	9	3	--	--	5	--	89	40	129
Mandibular region	4	--	17	--	55	--	16	--	20	--	8	--	--	--	120	--	120
Sub-conjunctival	16	--	15	--	3	--	1	--	1	--	--	--	--	--	36	--	36
Cheek region	15	--	11	--	3	--	4	--	--	--	--	--	--	--	33	--	33
Ear region	--	--	--	--	3	--	2	--	4	--	--	--	1	--	10	--	10
Neck region	7	--	13	1	13	2	1	2	5	--	--	--	3	--	42	5	47
Thoracic limbs	6	6	15	14	10	4	4	2	6	1	2	--	2	--	45	27	72
Thoracic wall behind the elbow	15	--	14	--	5	--	--	--	--	--	--	--	--	--	34	--	34
Abdominal wall	12	--	5	--	14	10	4	1	3	--	5	--	6	--	49	11	60
Umbilical region	25	--	34	--	7	--	2	--	--	--	--	--	--	--	68	--	68
Gluteal region	12	1	21	2	2	--	2	--	2	--	--	--	3	--	42	3	45
Pelvic limbs	5	1	41	20	10	--	11	--	8	--	2	--	4	--	81	21	102
Perineal region	1	--	5	--	2	--	5	--	--	--	--	--	--	--	13	--	13
Tail region	--	--	2	--	10	1	--	--	--	--	--	--	3	--	15	1	16
Vulvar lips	--	--	3	--	--	--	--	--	2	--	--	--	--	--	5	--	5
Total	123	8	202	38	187	43	66	15	60	4	17	--	27	--	682	108	
%	15.7	1.2	25.6	4.8	23.6	5.3	8.3	1.8	7.6	0.5	2.2	--	3.4	--	86.3	13.7	790

4- Methods of surgical treatment.

Two surgical approaches were performed for treatment of body surface abscesses (table 4) either by incision and evacuation of abscess contents (I) or by en bloc excision (E). Affected animals with body

surface abscesses are classified according to the treatment option into 686 animals (68.85%) treated by incision and evacuation and 104 animals (13.15%) by en bloc excision.

Table 4: Classification of affected animals according to surgical treatment option either by incision (I) and evacuation or en bloc excision (E).

Regions	Animals		Buffaloes		Cattle		Sheep		Goats		Donkeys		Horses		Camels		Subtotal		Total
	I	E	I	E	I	E	I	E	I	E	I	E	I	E	I	E			
Parotid region	5	--	17	--	76	--	24	--	12	--	--	--	5	--	129	--	129		
Mandibular region	2	2	10	7	24	31	10	6	20	--	8	--	--	--	74	46	120		
Sub-conjunctival	16	--	15	--	3	--	1	--	1	--	--	--	--	--	36	--	36		
Cheek region	15	--	11	--	3	--	4	--	--	--	--	--	--	--	33	--	33		
Ear region	--	--	--	--	2	1	1	1	4	--	--	--	1	--	8	2	10		
Neck region	6	1	13	1	10	5	2	1	5	--	--	--	3	--	39	8	47		
Thoracic limbs	12	--	28	1	10	4	5	1	7	--	2	--	2	--	64	6	72		
Thoracic wall behind the elbow	15	--	14	--	5	--	--	--	--	--	--	--	--	--	34	--	34		
Abdominal wall	12	--	5	--	20	4	5	--	3	--	5	--	6	--	56	4	60		
Umbilical region	15	10	20	14	5	2	1	1	--	--	--	--	--	--	41	27	68		
Gluteal region	13	--	23	--	2	--	2	--	2	--	--	--	3	--	45	--	45		
Pelvic limbs	6	--	61	--	10	--	10	1	8	--	2	--	6	--	101	1	102		
Perineal region	1	--	4	1	2	--	4	1	--	--	--	--	--	--	11	2	13		
Tail region	--	--	--	2	6	5	--	--	--	--	--	--	3	--	9	7	16		
Vulvar lips	--	--	2	1	--	--	--	--	2	--	--	--	--	--	4	1	5		
Total	118	13	213	27	178	52	69	12	64	--	17	--	27	--	686	104		790	
%	14.9	1.7	27.0	3.4	22.5	6.6	8.7	1.5	8.1	--	2.2	--	3.4	--	86.8	13.2			

5- The fate of cases after surgical treatment. They are classified according to the following:

- 1) Animals completely recovered after first surgical interference within 7-30 days with formation of scar tissue at the seat of abscess (589 animals = 74.56%).
- 2) Animals recovered after the second surgical interference and after treatment of complications within 30-60 days (66 animals = 8.35%).
- 3) Culling of animals either by slaughtering or euthanasia (43 animals = 5.44%).

- 4) Fate of animals was not recorded postoperatively (92 animals = 11.65%).

Recorded complications after surgical treatment (66 animals) include; recurrence of abscess at the same or another place (54 animals), sinus formation (9 animals), and ulcer formation (3 animals).

Complete recovery after the first surgical interference occurred in 74.56% of cases and after the second trail in 8.35%. A percent of 5.44% of animals were culled either by slaughtering or euthanasia and 11.65% was not recorded (Table 5).

Table 5: The fate of treatment of body surface abscesses.

Regions	Animals	Complete recovery	Recovery from second trial	Culling	Not recorded	Total
Parotid region		89	21	10	9	129
Mandibular region		100	5	3	12	120
Sub-conjunctival		35	1	--	--	36
Cheek region		28	2	--	3	33
Ear region		8	--	--	2	10
Neck region		42	2	--	3	47
Thoracic limbs		32	5	15	20	72
Thoracic wall behind the elbow		27	1	3	3	34
Abdominal wall		48	2	--	10	60
Umbilical region		58	4	1	5	68
Gluteal region		35	6	1	3	45
Pelvic limbs		57	14	10	21	102
Perineal region		11	1	--	1	13
Tail region		14	2	--	--	16
Vulvar lips		5	--	--	--	5
Total		589	66	43	92	790
%		74.56	8.35	5.44	11.65	100%

**Fig. 3:** Abscess at the parotid region in a sheep.**Fig. 4:** Abscess at the parotid region in a sheep.**Fig. 5:** Multiple abscesses below the ear, parotid region, cheek and mandibular region in a calf.**Fig. 6:** Abscess at the mandibular region in a sheep.



Fig. 7: Abscess at the mandibular region in a goat.



Fig. 8: Abscess at the mandibular region due to strangles in a foal.



Fig. 9: Abscess at the base of the neck in a goat



Fig. 10: Abscess at the lateral aspect of the neck in a goat.



Fig. 11: Aspiration of pus from an abscess.



Fig. 12: Presternal abscess in a sheep.



Fig. 13: Abscess behind the mandibular angle in a camel.



Fig. 14: Foreign body abscess at the mandibular region in a cow.



Fig. 15: Foreign body abscess at the mandibular region in a cow.

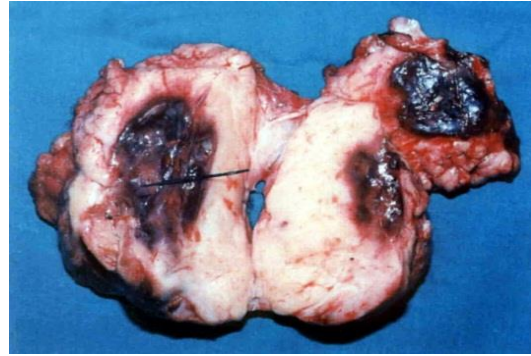


Fig. 16: Abscess excised from a cow in fig 13. Note a needle inside it.



Fig. 17: A huge foreign body abscess at the mandibular region in a cow.

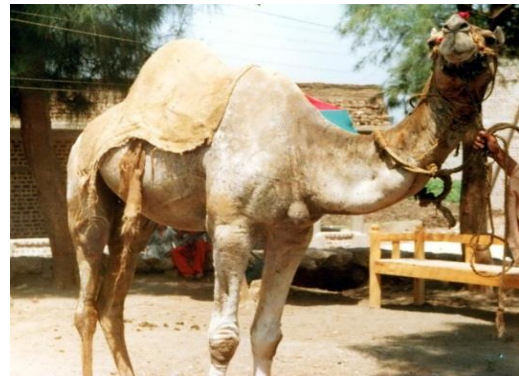


Fig. 18: Abscess at the base of the neck in a camel.



Fig. 19: Third eyelid abscess in a buffalo.



Fig. 20: Subconjunctival abscess in a cow.



Fig. 21: Foreign body abscess at the chest wall behind the elbow in a buffalo.



Fig. 22: Evacuation of an abscess in fig. 21.



Fig. 23: Extraction of a needle from the abscess in fig. 21.



Fig. 24: Multiple abscesses along the lymphatic vessels of the thoracic limb in a buffalo.



Fig. 25: Abscess at the lateral thoracic wall in a buffalo.



Fig. 26: Abscess at the lateral abdominal wall in a buffalo.



Fig. 27: Umbilical abscess in a buffalo calf.



Fig. 28: Umbilical abscess in a calf.



Fig. 29: Abdominal abscess in front of the udder in a sheep.



Fig. 30: Abscess at the base of the scrotum as a complication of castration by Burdizzo in a sheep.



Fig. 31: A huge abscess at the pelvic region due to intramuscular injection in a buffalo.

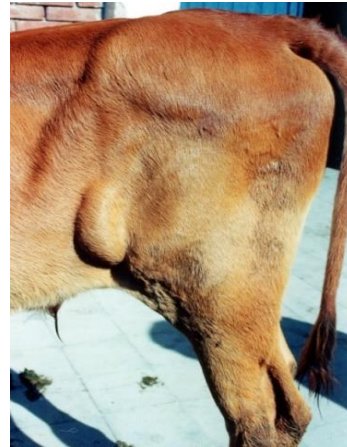


Fig. 32: Prefemoral abscess due to caseous lymphadenitis in a cow.



Fig. 33: Abscess at the lateral aspect of the hock in a cow.



Fig. 34: Evacuation of abscess at the lateral aspect of the gaskin in a cow.



Fig. 35: Abscess at the lateral aspect of metatarsus in a buffalo.



Fig. 36: Abscess at the lateral aspect of the thigh in a sheep.



Fig. 37: Cross section of the excised abscess showing onion-like pattern of the inspissated pus of case in fig.36.



Fig. 38: Case shown in fig. 36. after excision of the abscess.



Fig. 39: A huge abscess at the tail of a sheep.



Fig. 40: The same case shown in fig. 39 during abscess evacuation.



Fig. 41: Abscess at the ventral aspect of the tail in a buffalo.



Fig. 42: Supramammary gland abscess in a goat.

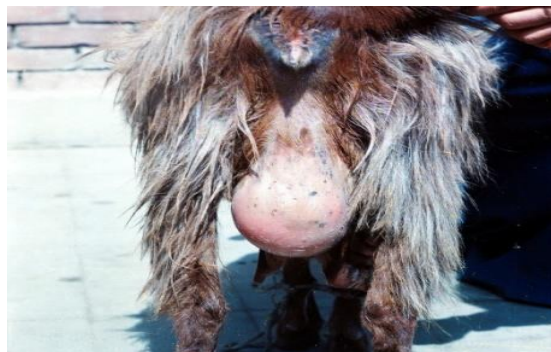


Fig. 43: Supramammary gland abscess in a goat.

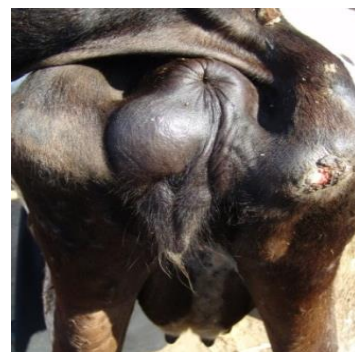


Fig. 44: Vulvar abscess in a cow.



Fig. 45: Abscess at the lower commissure of the vulva in a buffalo.

DISCUSSION

Causes of abscess formation in farm animals are variable and include a breach on the surface of the skin or mucous membrane and entrance of pyogenic microorganisms through it, infected foreign bodies migrating from the lumen of digestive tract, non-sterilized needle used for intramuscular injection, punctured wounds induced by infected foreign bodies and blood and lymph-borne infection (Fubini *et al.*, 2004; Misk *et al.*, 2008; Misk *et al.*, 2016 and Misk *et al.*, 2019).

Predilection seats of abscesses in different farm animals depend mainly on the way of entrance of infection. Abscesses at the parotid and mandibular regions are due to either infected foreign body penetrating the oral mucosa and soft tissues or due to lymphatic borne infection. In the present study the most common animals affected with abscesses at the submandibular region were sheep due to caseous lymphadenitis. Transmission of caseous lymphadenitis occurs via ingestion or inhalation of infected bacteria from the environment. The organisms gain access to the body via break in the skin during shearing or dipping for external parasite. Lymph nodes at the mandibular and parotid regions as well as at the neck and hind legs often have abscesses in sheep. The abscesses are multiple and appear as firm masses that can be expressed intact by surgical excision and often has a laminar appearance when cut in cross section (Williamson *et al.*, 2001; Misk *et al.*, 2008 and Fontasine *et al.*, 2008).

Strangles is one of the first equine diseases described in the literatures. It is characterized by sudden onset of fever and upper respiratory catarrh, followed by acute swelling and subsequent abscess formation in the sub-maxillary, sub-mandibular and

retropharyngeal lymph nodes (Reile *et al.*, 1983; Sweeny *et al.*, I 1987 and Sweeny *et al.*, II 1987). In the present study abscesses at the mandibular region in donkeys and horses were due to strangle infection.

Sub-conjunctival and third eyelid abscesses are usually due to penetration of the conjunctiva with infected foreign body present accidentally in the conjunctival cul-de-sac. Continuous blepharospasm may force the foreign body to penetrate the palpebral or bulbar conjunctiva and inoculate infection sub-conjunctively with subsequent formation of abscesses (Misk *et al.*, 1986; Lavach *et al.*, 1990 and Misk *et al.*, 2014). This condition was recorded frequently in buffaloes and cattle in the present study.

Cheek abscesses were also diagnosed in ruminants. Oral abrasions, openings and punctures associated with dental disease, hard plant awns, thorns, stickers or dry coarse stemmed feeds are the way for entrance of either nonspecific microorganisms inducing abscess at the cheek, mandibular space, pharynx and oral cavity or specific microorganisms as *actinomyces bovis* leading to actinomycosis with formation of granulomatous abscesses in the mandible, maxilla and some soft tissues.

Abscesses at the neck region especially at the base or close to the pre-scapular region are in most instances due to lymph-borne infection as the pre-scapular lymph node may be the seat of caseous lymphadenitis in most animals. Seats of abscesses in sheep and goat were the pre-scapular lymph nodes then the pre-femoral lymph nodes (Abebe *et al.*, 2015). Thoracic limbs abscesses were seen in the present study in all animals and appear to be due to lymph borne infection which may lead to caseous lymphadenitis and caseous lymphangitis.

In most instances, abscess formation adjacent to the reticulum is secondary to hardware disease. In the present study several abscesses were diagnosed in buffaloes, cattle and sheep behind the elbow at the right thoracic wall. Opening and drainage revealed presence of foreign bodies such as sewing needles and pieces of wire (Misk *et al.*, 1981; Misk *et al.*, 2001; Fubini *et al.*, 2004 and Sangwan *et al.*, 2017).

Umbilical abscess or infection of any of the three components of the umbilicus (arteries, veins and urachus) may produce local infection with abscess formation. The source of infection is most commonly the external environment, coupled with failure of passive transfer. Umbilical abscesses were diagnosed in the present study mainly in buffaloes and cattle. They appear as warm, painful, non-reducible and firm or fluctuant mass. Aspiration revealed purulent material from the mass. Most of abscesses will respond to treatment by drainage and lavage of the abscess cavity (Fubini *et al.*, 2004 and Mosbah *et al.*, 2006).

Pelvic limbs abscesses were seen frequently in the present study in cattle and sporadically in goat, sheep and buffaloes. The large number of cases recorded in cattle was due to complications of Lumpy skin disease. The latter is an infectious viral disease characterized by formation of nodules or lumps in the skin covering all parts of the body. Secondary infections sometimes occur and cause extensive suppuration and sloughing of tissues. The hind limbs show signs of inflammation and swellings at the gaskin region. The swelling was filled with pus and threads of necrotic tissues. Opening and drainage were indicated immediately for treatment of such cases (Davies, 1991; Fubini *et al.*, 2004; Pressz *et al.*, 2015 and Tuppurainen, 2018).

Abscesses at the ventral abdominal wall, perineal region, tail and vulvar lips may be due to skin breach or penetration of infected foreign bodies through the soft thin skin at these areas. Gluteal region abscesses were recorded frequently in cattle and buffaloes. This condition appears to be due to intramuscular injection of medicaments with non-sterilized needle (Tufflyli *et al.*, 2012; Pressz *et al.*, 2015 and Attia *et al.*, 2019).

Abscesses around scrotum were sporadically recorded in sheep in the present study due to faulty castration by Burdizo instrument. The most common complications after pig castration were hemorrhage, abscess, scirrhus cord, inguinal hernia and hematoma formation. Abscesses were detected in the present study after castration in the pelvic region (Szazado 1985 and Steerforth *et al.*, 2015).

Solitary abscesses in the present study were diagnosed in 682 animals (86.33%) while multiple abscesses were detected in 108 animals (13.67%). Multiple abscesses were seen when the cause was

blood or lymph – borne infection as in cases of caseous lymphangitis and caseous lymphadenitis in cattle, sheep and goats.

Multiple abscesses were detected at the parotid and mandibular regions, thoracic limbs and pre-femoral lymph node, while solitary abscesses (one abscess per one animal) were detected when the cause is breach on the skin surface, penetrating foreign bodies, intramuscular injection with infected needle and migrating foreign bodies from the digestive tract (Misk *et al.*, 1985; Misk *et al.*, 2008 and Misk *et al.*, 2014).

Concerning surgical treatment of abscesses, the authors of the present study suggested two approaches for correction of such cases. The first approach is the opening of the abscess after maturation and evacuation of its contents. The second is the en bloc excision of abscess. The first option is performed when the abscess has no limitations and extended under the surface of the skin as well as close to a vital structure while the second option is performed when the abscess is well circumscribed, firm and movable under the skin. Moreover, the first approach takes a long time for healing (20-30 days) and needs daily wound management for healing by second intention while the second approach needs not more than 10 days and the skin wound healed by first intention.

Around 75% of animal were recovered without any postoperative complications. 8% of animals were added to the recovery group taking in consideration some complications which may supervene during the first trial of treatment. When multiple abscesses were detected in one animal the decision of slaughtering (ruminants) or euthanasia (equine) was taken in 5.44% of affected animals. Follow up of some treated cases (11.65%) was not performed due to bad connections or carelessness of owners.

In conclusion, body surface abscess in farm animals are located at specific seats on the animal body. The location of abscesses is related to the way of infection and presented either solitary or multiple. Surgical treatment was successful in most of presented cases.

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دراسة مرجعية علي خراييج سطح الجسم في بعض حيوانات المزرعة

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تهدف هذه الدراسة إلي تحديد الأماكن الشائعة لتواجد الخراييج علي سطح الجسم في بعض حيوانات المزرعة وعلاقتها بطريقة حدوث العدوى وكذلك طرق العلاج الجراحي والمصير والمضاعفات ولقد تمت هذه الدراسة علي عدد ٧٩٠ حيوان منهم ١٣١ جاموس ، ٢٤٠ أبقار ، ٢٣٠ أغنام ، ٨١ ماعز ، ٦٤ حمار ، ١٧ حصان ، ٢٧ جمل والتي كانت تعاني من وجود خراييج علي أماكن مختلفة من سطح الجسم ولقد تم تسجيل هذه الحالات خلال الزيارات الحقلية للقرى التابعة لعدد ٢٧ محافظة بجمهورية مصر العربية خلال الفترة من ٢٠٠٣ إلي ٢٠١٥ .

ولقد تم تشخيص هذه الحالات بالاعتماد علي تاريخ الحالة والأعراض الإكلينيكية والوخز الاستكشافي، وقد تم العلاج الجراحي بفتح الخراج وتفريغ محتوياته أو بالإزالة الكاملة له وأثبتت النتائج أن أماكن تواجده الخراييج علي سطح الجسم هي منطقة الغدة النكفية في عدد ١٢٩ حيوان بنسبة ١٦,٣٣% والمنطقة تحت فكية في عدد ١٢٠ حيوان بنسبة ١٥,١٩% وتحت الملتحمة في عدد ٣٦ حيوان بنسبة ٤,٥٦% ومنطقة الخد في ٣٣ حيوان بنسبة ٤,١٨% ومنطقة الأذن في عدد ١٠ حيوانات بنسبة ١,٢٧% ومنطقة الرقبة في عدد ٤٧ حيوان بنسبة ٥,٧% وعلي الأطراف الأمامية في عدد ٧٢ حيوان بنسبة ٩,١١% وعلي جدار الصدر خلف الكوع في ٣٤ حيوان بنسبة ٤,٣% ومنطقة جدار البطن في عدد ٦٠ حيوان بنسبة ٧,٥٩% ومنطقة الصره في عدد ٦٨ حيوان بنسبة ٨,٦١% ومنطقة الفخذ في عدد ٤٥ حيوان بنسبة ١٢,٩١% ومنطقة الذيل في عدد ١٦ حيوان بنسبة ٢,٠٢% ومنطقة شفاة الفرج في عدد ٥ حيوانات بنسبة ٠,٦٣% .

وتم مقارنة الأماكن المختارة لحدوث الخراييج مع طرق دخول العدوى لها وتوصل البحث إلي أن ذلك يحدث عن طريق خدش علي سطح الجلد وإنتقال الأجسام الغريبة من تجويف الجهاز الهضمي والحقن العضلي بإبر غير معقمة والجرح الوخذي بجسم غريب ملوث ونقل العدوى عن طريق الليمف والدم.

وتم كذلك تسجيل الخراييج الفردية في عدد ٦٨٢ حيوان بنسبة ٨٦,٣٣% والخراييج المتعددة في عدد ١٠٨ حيوان بنسبة ١٣,٦٧% ونتيجة العلاج تم الشفاء في عدد ٥٨٩ حيوان من أول تدخل جراحي بنسبة ٧٤,٥٦% ومن ثاني تدخل جراحي في عدد ٦٦ حيوان بنسبة ٨,٣٥% كما تم التخلص بالذبح أو الإعدام الرحيم في عدد ٤٣ حيوان بنسبة ٥,٤٤% وعدد الحالات التي لم يتم تسجيل نتائج العلاج فيها كانت ٩٢ حيوان بنسبة ١١,٦٥% .