قسم الجـراحة
كلية الطب البيطرى - جامعة الزقازيق
رئيس القسم : أ.د / محمد عمر

استيضاحات فى التهاب مفصل الوركى بالأمهـــــار

تيسـير سامى ، محمد عادل

أجريت هذه الدراسة على ٢٥ مهر فى أعمار مختلفة من نصف سنة الى سنتين ، بها درجات متفاوتة من العرج مصطحبة بزيادة امتلاء المفصل الفخذى الردفـــى بالسائل السينوفى . ولقد أظهرت الاعراض الاكلينيكية والتحليل المعملى للســائل السينوفى وكذلك التشخيص بالاشعة السينية صورة الالتهاب المزمن للمفصل الفخذى الردفى . وقد ذكرت التغيرات الوصفية الباثولوجية بالحالات التى لم تستجـــب للعلاج بعد التشريح الباثولوجى وتم محاولة علاج هذه الحالات بواسطة بـــزل السائل السينوفى مع مراعاة كافة الاحتياطات المطهرة وحقن عقار المركب المخاطـى عديد السكريات عديد الكبريتات (الأرتيبارون) فى داخل المفصل لتســـهيل اعادة التئام الغضروف المفصلى . كذلك تم حقن عقار التومانول بالعضل كمســكن لآلام ومزيل للالتهابات وموقف للآلام الروماتيزمية مع توفير الراحة التامة لمـــدة ٤ - ٦ أسابيع . ولقد أعطى هذا العلاج نتائج جيدة فى الحالات الحديثـــة فقط التى ليس بها اتلاف بالغضروف المفصلى حيث أنها حالة غير عكسية .

وتعذى سبب هذه الحالات الى عدوى سابقة فى فترة الحمل أو بعد الولادة وليست نتيجة الاصبلت عرضية حيث أن معظمها كانت مصابة فى كلا مفصلى الفخذ .

Dept. of Surgery,
Faculty of Vet. Med., Zagazig University,
Head of Dept. Prof. Dr. M.S. Omar.

CONTRIBUTION ON GONITIS IN OLDER FOALS

(With One Table & 7 Figs.)

By
M.T. SAMY and M.A. ALI*

(Received at 9/1/1985)

SUMMARY

The present study represented 25 older foals suffered from different degrees of lameness with excessive synovial fluid distension of the femoro-patellar joint. The clinical signs, synovial fluid analysis and radiographical examination revealed the picture of chronic inflammation of the femoro-patellar joint "Gonitis or Gonotrochlose". The pathomorphological changes were described.

Treatment was attempted by aspiration of the synovial fluid under complete aseptic precautions and at the same time with intrarticular injection of Arteparon, a mucopolysaccharide polysulphate substance. Tomanol was also systematically injected as analgesic, antiphlogistic and antirheumatic with complete rest for the animals for 4-6 weeks. Good results were only obtained in recent cases in which the joint cartilage was not extensively damaged as it is an irreversable condition.

The cause of the condition is attributed to a previous infection in the prenatal period or just after parturition and not due to trauma as most of cases were bilaterally affected.

INTRODUCTION

Generally, the differentiation between the inflammatory and the degenerative joint diseases is not clearly described up till now. ADAMS (1974) defined gonitis as a vague term meaning inflammation of the stifle joint which may be serous arthritis, osteoarthritis and suppurative arthritis. He found that navel infection in foals is the common cause of suppurative arthritis.

In the german literature, the acute and chronic (aseptic or infectious) as well as the degenerative or chronic deformed inflammatory diseases could be differentiated according to their location in diseases of the femoro-tibial joint "Gonarthrose", diseases of the femoro-patellar joint "Gonotrochlose" and diseases of the whole stifle by foals till 1 year old in association with the neonatal infections "Gonitis" (DIETZ, 1982).

On the other hand, O'BRIEN (1973) classified the diseases of the stifle into two general categories; 1. Bony abnormalities with or without soft tissue swelling and 2. Soft tissue swelling without bony changes of which, acute infectious arthritis, cellulitis, soft tissue calcification, acute sprain or strain and patellar luxation. However, FRANK (1953) described hydrarthrosis of the stifle (dropsical gonitis) as occasionally occurs in foals ranging in age from few days to 1 year old

* Dept. of Surgery, Faculty of Vet. Med., Assiut University.

of cases with the medial partition of femoro-tibial joint and in 18-25% with the lateral partition (BAUM, 1894; STOSS, 1925; VAN PELT, 1965). Therefore, any injection made into the femoro-patellar joint cavity is usually assured of reaching the medial femoro-tibial joint. However to ensure adequate therapy to the lateral femoro-tibial joint, injections should be made directly into the joint itself (VAN PELT, 1965).

Movement of the femoro-patellar articulation is gliding (the patella slides up and down the trochlea of femur as the stifle is flexed and extended), whereas the femoro-tibial articulation is ginglymoid. Functionally, the stifle has two degrees of freedom, flexion and extension and a minor degree of axial rotation when the femur and tibia are at a right angle to each other (GETTY, 1975).

In stifle diseases degree of lameness will vary according to the severity of damages encountered in the joint (ADAMS, 1973). Lesions of the stifle accomanied with articular damages manifested them-selfes in our cases by signs of pain, mechanical interference with motion and lameness as proved pathomorphologically. At the same time, marked distension of the stifle can result in inability to properly flex or extend the limb.

Momental trauma as a kick, accident or distorsion caused only microscopical cartilage damage through rupture of the tangential fibers in a circumscribed areas. However, as the condition was found bilaterally in 16 foals out of the 25 cases, so traumatic origin could not be considered, a condition which is not in agreement with PFEIFFER (1935) and VAN PELT (1970). However, PAATSAMA (1975) refered the condition to early training of the animal before closure of the epiphyseal lines.

The minor crepitus sound detected by some cases accompanied with severe degree of lameness is an indication for the extensive articular damage as proved by the post mortem examination.

PETERS (1935), WHEAT (1972) and ZELLER (1981) described the pathoradiological changes as accompanied with severe injury of articular surfaces of the femur trochlea, osteochondrosis dissecans with corpora libera formation. In addition, there was destructive defects of joint line, subchondral bone cysts, subchondral bone sclerosis and partial bony necrosis by our materials.

All the pathomorphological findings especially the extensive symetrical destruction of the articular cartilage at its periphary and in the center of the joint due to superficial and profuse chondrolytic processes with the secondary reaction in the subchondral bone indicated but without definite determination that it is dealt with infectious arthritis also the bacteriological examination of the synovia was negative. A condition, which is nearly similar to that described by FRANK (1953). So a previous infection passed in a subclinic form perhaps in the prenatal period or just after birth due to navil infection can not be excluded as supported by the case history of these cases.

Generally, destruction of the articular cartilage is an irreversable condition. By inflammatory joint diseases, destruction of the superficial layer of joint cartilage is occured by the action of the lysosomal enzymes secreted by the polymorphnuclear leucocytes in the joint fluids. While by degenerative joint diseases, destruction of cartilage occurs through the lysosomal enzymes secreted from the damaged chondrocytes which result in lossening of the cartilage from the subchondral bone. So the use of enzyme inhibitor as Trasylol (Bayer) is only beneficial in the recent cases when the cartilage is still intact and not damaged as it is also a proteinase inhibitor. The same is also applied for the use of the mucopolysaccharide polysulphate substance 'Arteparon' which is only beneficial in the recent cases. In the other hand, the use of corticosteroids in such cases can inhibit the cartilage ground substance and their long use caused destruction of the cartilage

matrix and not as recommended by VAN PELT et al. (1970) and ADAMS (1974). However, cortisons react good in the accompanied synovitis.

Meanwhile, the intra-articular therapy may lead to septic complications through the repeated injections.

In conclusion, treatment of arthritis deformans of the stifle joint in older foals seem to be incurable in the advanced cases as other joint arthrosis.

REFERENCES

Adams, O.R. (1973): Differential Diagnosis of Stifle Lameness in Horses. Proc. 19 th. Conv. Am. Ass. Eq. Pract., 263-270.

Adams, O.R. (1974): Lameness in Horses. Lea & Febiger, Philadelphia.

Baum, H. (1894): Kniescheibengelenk und Ober-Unterschenkelbeingelenk beim Pferd. Arch. Tierheilk. 20, 5-40.

Bolz, W.; O. Dietz; H. Schleiter und R. Teuscher (1975): Lehrbuch der Speziellen Veterinärchirurgie. VEB Gustav Fischer Verlag Jena. Teil II. Seite 795.

Dietz, O. (1982): Krankheiten der HintergliedmaBen, in Handbuch der Pferdekrankheiten für Wissenschaft und Praxis von: O. Dietz und E. Wiesnar (Hrsg.) Karger, Basel.

Frank, E.R. (1953): Veterinary Surgery. Burgess Publishing Co., Minneapolis, Minn. P. 275.

Getty, R. (1975): Equine Syndesmology in Sisson and Grossman: The Anatomy of Domestic Animals. W.B. Saunders Company, Philadelphia, London, Toronto.

Nickel, R.; A. Schummer und E. Seiferler (1977): lehrbuch der Anatomie der Haustiere. Parey Verlag, Berlin, Hamburg, 4 Aufl., Bd. 1.

O'Brien, T.R. (1973): Radiology of the Equine Stifle. Proc. 19 th. Ann. Conv. Am. Eq. Pract. 271-287.

Paatsama, S. (1975): Diagnostik, Therapie und Prognose bei Kniegelenks-lahmheiten beim Pferd. tierärztl. prax. 3, 445-454.

Peters (1935): Beitrag zur Kniescheibengelenkentzündung bei Fohlen. Berl. Tierärztl. Wschr. 51, 720-722.

Pfeiffer (1935): Die habituelle laterale Dislokation der Kniescheibe bei Fohlen. Münch. Tierärztl. Wschr. 86, 169-170.

Stoss, A.O. (1923): Anatomie und Kinematik der Gelenke der Pferdeextremitäten. Z. Anat. Entw. gesch. 69, 5-31.

Van Pelt, R.W. (1965): Intra-articular Injection of Equine Stifle for Therapeutic and Diagnostic Purposes. J.A.V.M.A. 147, 490-498.

Van Pelt, R.W.; W.F. Riley and P.J. Tillotson (1970): Stifle Diseases (Gonitis) in Horses: Clinicopathological Findings and Intraarticular Therapy. J.A.V.M.A., 157, 1173-1186.

Wheat, J.D. (1972): The Musculo-Skeletal System. In Equine Medicine and Surgery. Edited by Catocott, E.J. and J.E. Smithcors (1972) 2nd Ed. Am. Vet. Publications, INC., Santa Barbara, Calf.

Zeller, R. (1981): Über die Erkrankungen des Kniescheibengelenkes beim Fohlen. Vertrag in Münschen und Pers. Mitteilung.

ILLUSTRATIONS

Fig. (1): A 1 year old foal with gonitis characterised by bilateral distention of the suprapatellar pouch of the femoro-patellar joint capsule.

Fig. (2): Stifle joint, latero-medial view (90°). Gonitis with destructive defects of joint line (D), deformity of joint surface (C) and osteochondrosis dissecans of the trochleal ridge with corpora libera formation (I).

Fig. (3): Right stifle joint, latero-medial view (90°). Gonitis with partial bony necrosis of the lateral trochleal ridge of femur (F) with several peppercorn to peas sized free bodies in the femoro-patellar joint (I).

Fig. (4): Right stifle joint, latero-medial view (90°). Gonitis with subchondral bone cysts at the trochleal ridge of femur and the patella (E).

Fig. (5): Stifle joint of a foal with gonitis. Note the thickness of joint capsule and the change of its colouration with the presence of free corpus liberum inside the femoro-patellar joint cavity.

Fig. (6): Stifle joint of a foal. Note the extensive grooves and erosions on the articular cartilage of the trochleal ridge.

Fig. (7): Stifle joint of a foal with gonitis characterized by complete detachment of a whole part of the articular cartilage with the presence of different sized free bodies.

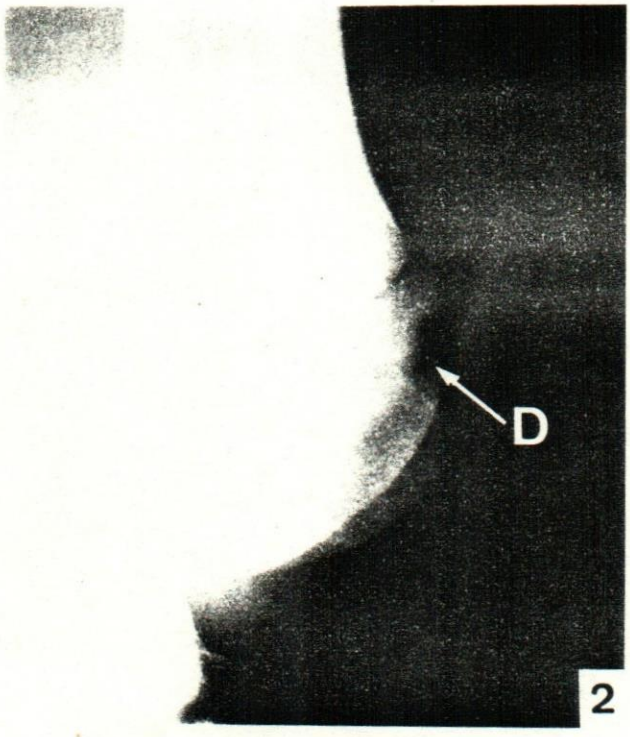
Table (1)

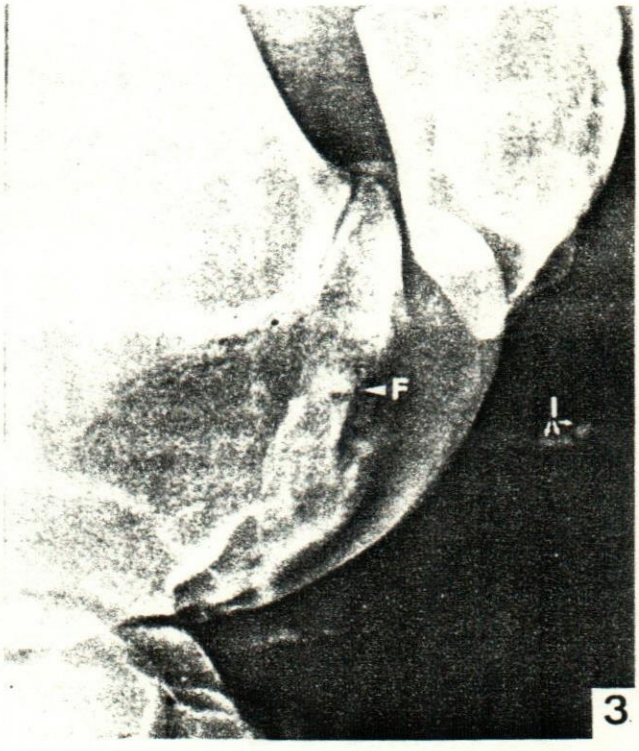
Spliting of the radiological findings of 25 foals with uni- or bilateral Gonitis

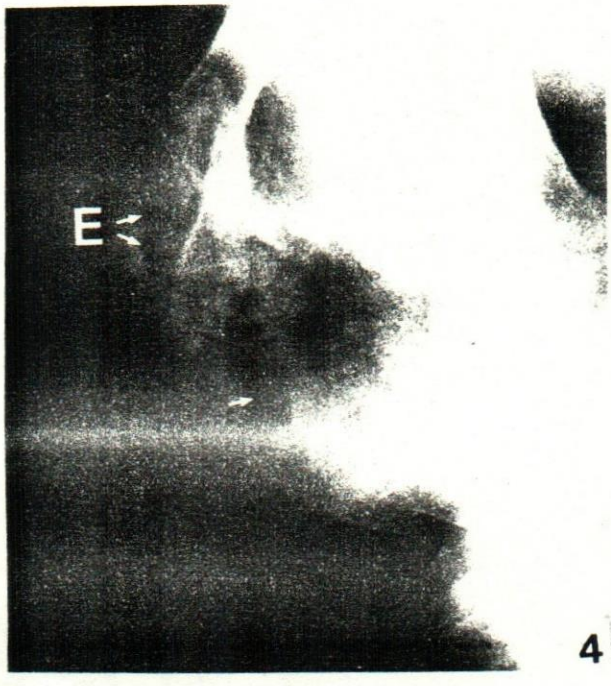
Radiological symptoms	No. of cases	Location & Number		Describtion of the findings
Narrowing of joint space	1			1 unclear
Subchondral bone sclerosis	6	P	-	
		R	6	5 clear and 1 distinct
Deformty of joint surface	14	P	2	1 unclear and 1 clear
		R	12	9 clear, 3 distinct
Destructive defects in joint line 17	breaks 15	P	2	2 ca. 1-1.5 cm long
		R	12	2 ca. 1 cm, 3 ca. 2 cm and 7 ca. 3 cm long
		C	1	1 ca. 3 cm long
	grooves 2	R	2	
Subchondral bone cysts	7 by 5 foals	P	1	1 pea size
		R	5	1 pea size, 3 cherry size and 1 Walnut size
		C	1	1 cherry size and 1 Walnut size
Partial bony necrosis	6	P	2	2 unclear
		R	3	3 clear
		C	1	1 clear
Marginal bony exostosis	1	F		
Changes in joint capsule	-			
Foreign bodies in joint	8	P	1	Free bodies in bed of peppercorn size
		R	6	Free bodies in bed of different sizes
		C	1	Free body in bed of cherry size
Bone atrophy	3	P	1	1 unclear
		F	2	2 unclear

R: Trochleal ridge of femur, P: Patella,
C: Condyle of femur, F: Femur distal end.

1







4

5

6

7