LAVAGE ARTHROSCOPIQUE VERSUS PAR VOIE OUVERTE: ARTHRITES NATIVES

Marion Baldeyrou

Maladies Infectieuses, CHU Pontchaillou, Rennes

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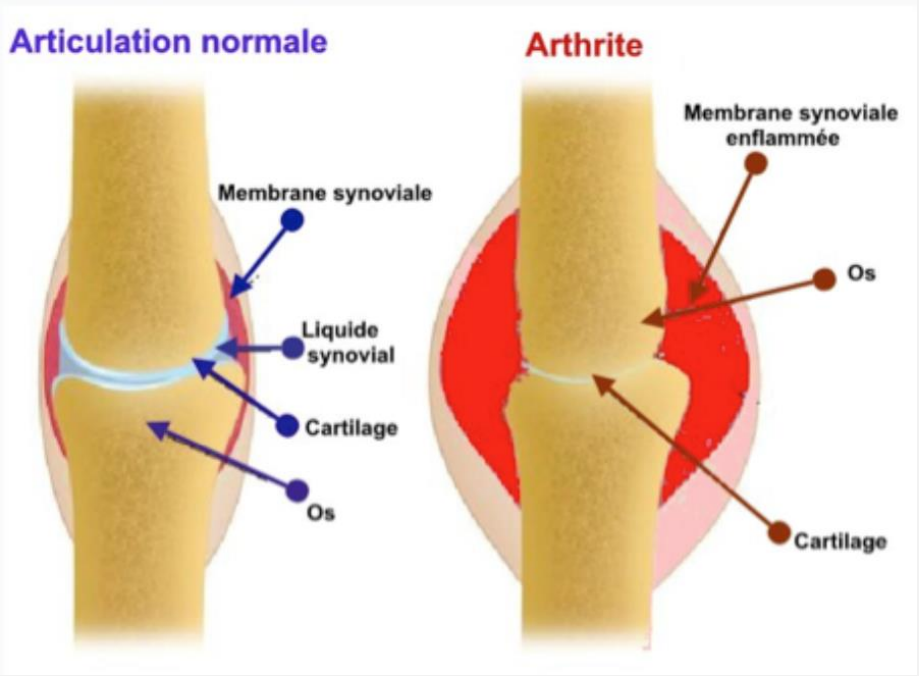
GENERALITES

PHYSIOPATHOLOGIE

1. Hématogène
2. Synoviale (membrane **protection) très vascularisée inflammatoire**
3. **Formation de pus avec épanchement** articulaire
4. Cloisonnement articulaire (équivalent d'abcès)
5. **Lésions cartilagineuses (non vascularisé) irréversibles**

après 1 semaine (anoxie cartilage par cytoxine et induction metalloprotease, accumulation de pus, flux vasculaire cartilage diminué)



PHYSIOPATHOLOGIE

Table 1

Arthroscopic classification of joint infections according to Gächter [8].

Stage I	opacity of fluid, redness of the synovial membrane, possible petechial bleeding, no radiological alterations
Stage II	Severe inflammation, fibrinous deposition, pus, no radiological alterations
Stage III	thickening of the synovial membrane, compartment formation, no radiological alterations
Stage IV	aggressive pannus with infiltration of the cartilage, undermining the cartilage, radiological signs of subchondral osteolysis, possible osseous erosions and cysts

PHYSIOPATHOLOGIE: CONSEQUENCES

1. SYNOVIALE= PROTECTION
    1. Secondairement, entretient du phénomène délétère inflammatoire

2. CARTILAGE= FONCTION= PRONOSTIC FONCTIONNEL EN JEU
    1. Douleur, raideur persistante après traitement car destruction cartilage

Kohlpratz, 2015

ARTHRITE NATIVE: ENJEU?

PRONOSTIC VITAL

- Selon pathogène incriminé, enjeu vital, PEC bactériémie +++++ et de l'arthrite
  - Ex bactériémie SA: 35 % mortalité à 1 mois
- 10% mortalité (jusqu'à 30% chez patients âgés, *Aïm, 2015*

Choix de l'antibiothérapie

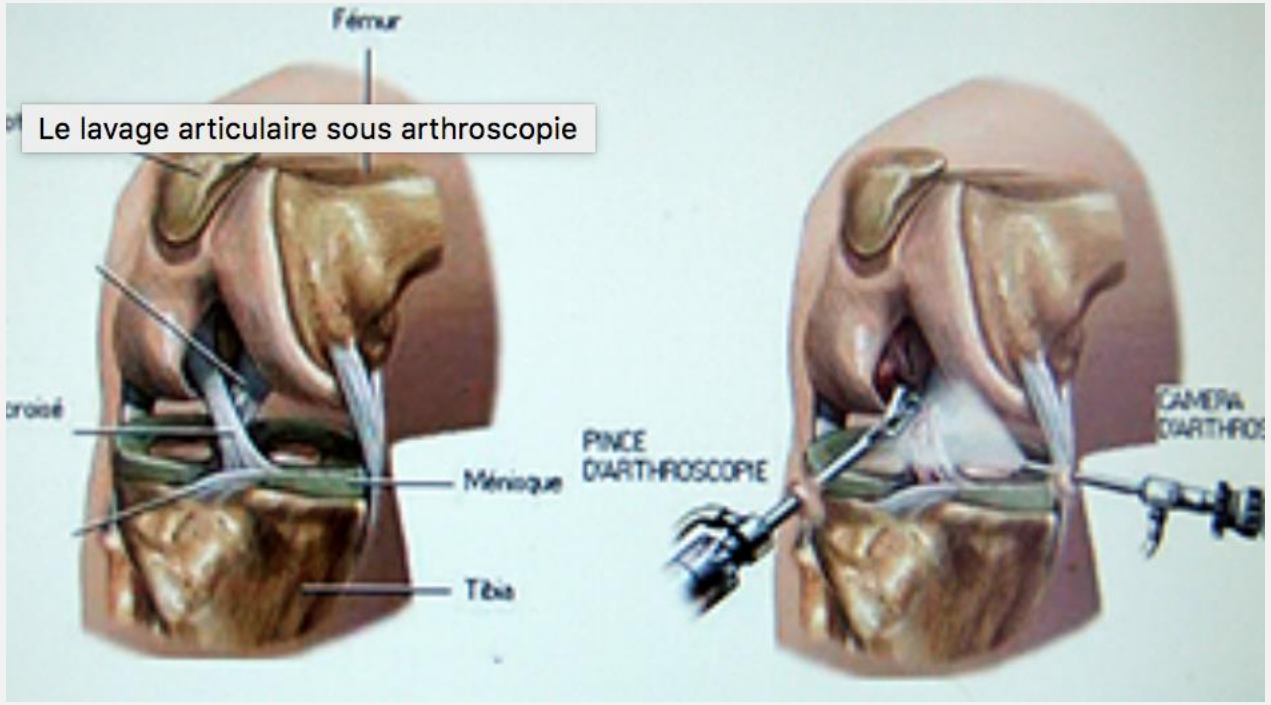
ENJEU ARTICULAIRE

- Risque d'échec infectieux si prise en charge incorrecte
- Risque fonctionnel lié à la destruction articulaire:
  - Dépend du germe: SA très destructeur à la différence du gonocoque: 25-50% perte de fonction totale pour le SA
  - Dépend de l'articulation touchée genou>> cheville
  - FDR autre: diabète, rhumatisme inflammatoire chronique

Hunter, J Bone Join Surg

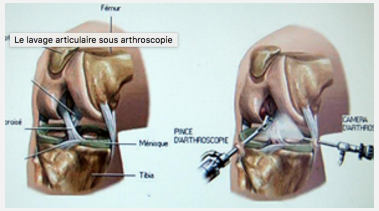
Stratégie chirurgicale?

STRATÉGIE CHIRURGICALE



Lavage,+/-synovectomie

STRATÉGIE CHIRURGICALE



Lavage arthroscopique

Lavage à ciel ouvert

Efficacy of arthroscopic treatment for resolving infection in septic arthritis of native joints

F. Aïm *, J. Delambre , T. Bauer , P. Hardy

Service de chirurgie orthopédique et traumatologique, hôpital Ambroise-Paré, 9, avenue Charles-de-Gaulle, 92100 Boulogne-Billancourt, France

- Rétrospectif monocentrique, Boulogne

- 46 arthrites septiques documentées

70% genou (32/46), 13% épaule (6/46)

Temps médian pour arthroscopie 7 jours

Synovectomie 72% (36/46)

Microbiologie classique

- Critères d'efficacité à 72h: SC, culture sur liquide de drainage
- Suivi à 42 mois

Table 1
Cause of the infection.

	n (%)
Haematogenous	18 (39.1)
After arthroscopy	11 (23.9)
After surgery	5 (10.9)
After a local injection	9 (19.6)
Post-traumatic	3 (6.5)

Table 2
Time to arthroscopic treatment.

	Days with symptoms before the first arthroscopic procedure
Gächter I	2 ± 1.2
Gächter II	7.3 ± 6.3
Gächter III	13 ± 5.4
Gächter IV	15 ± 4.3

Orthopaedics & Traumatology: Surgery & Research 101 (2015) 61–64

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70% genou (32/46), 13% épaule (6/46)

- 93% guérison (43/46) à 42 mois
  - 25% 2ème arthroscopie nécessaire (temps médian 5 jours)
- 7% nécessité traitement chirurgical 1 ou 2 temps
- FDR échec stade 3 et 4: culture drain +

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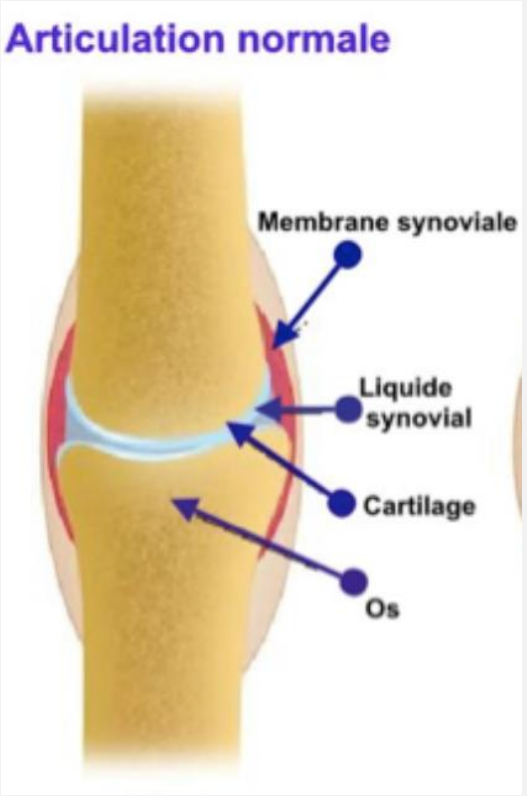
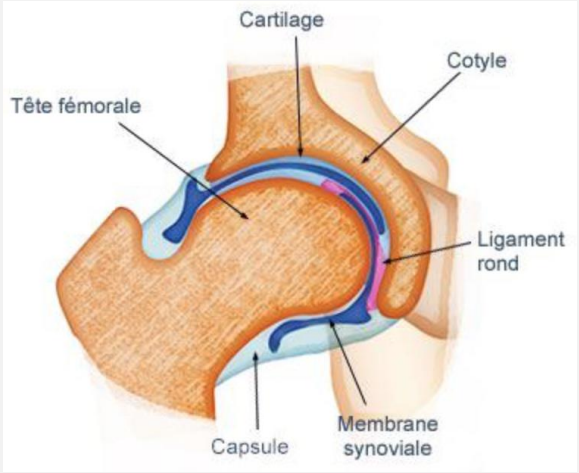
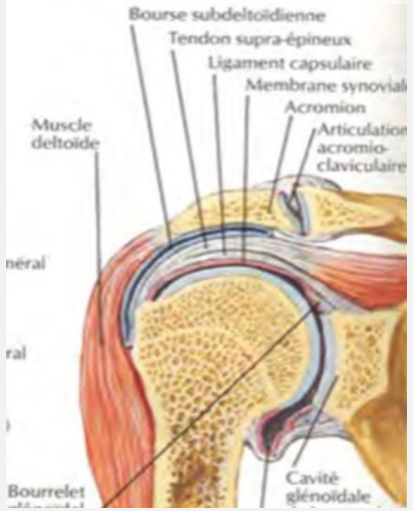
GENOU

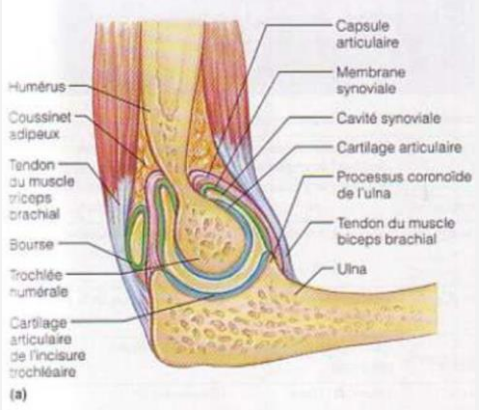
LOCALISATIONS PRÉFÉRENTIELLES

45%



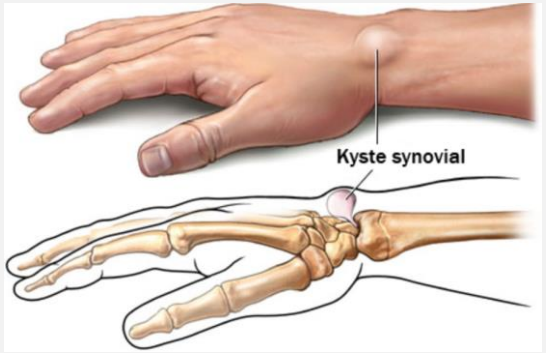






15% hanches

Épaules
<10%: coude, cheville



15% polyarticulaire

Arthroscopic irrigation and debridement is associated with favourable short-term outcomes vs. open management: an ACS-NSQIP database analysis

Mhamad Faour[1] · Assem A. Sultan[1] · Jaiben George[1] · Linsen T. Samuel[1] · Gannon L. Curtis[1] · Robert Molloy[1] · Carlos A. Higuera[2] · Michael A. Mont[3]

- ❑ 2011-2015
- ❑ 700 hôpitaux
- ❑ Recueil prospectif Database
- ❑ Arthrite septique genou
- ❑ Suivi J30

- ❑ Autres TTT chir exclus

Table 1 Baseline characteristics of patients undergoing open and arthroscopic surgeries for septic arthritis

Variable	Open ($n=231$)	Arthroscopic ($n=464$)	p value
Age, mean ± standard deviation (SD)	59 ± 15	59 ± 18	n.s
Male sex (%)	65%	65%	n.s
Race (%)			< 0.001
White	64%	67%	
African-American	55 (24%)	60 (13%)	
Others	12%	20%	
ASA class (%)			n.s
1	3%	5%	
2	28%	34%	
3	56%	49%	
4 +	13%	12%	
Independent functional status (%)	88%	89%	n.s
Body mass index (BMI), mean ± standard deviation	31.2 ± 8.6	29.2 ± 7.2	0.003
Smoker (%)	26%	23%	n.s
General anaesthesia (%)	95%	92%	n.s
Comorbidities (%)			n.s
0	53%	57%	
1	32%	28%	
> 1	15%	15%	

Knee Surgery, Sports Traumatology, Arthroscopy

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Table 2 Univariate analysis comparing the outcomes between open and arthroscopic procedures

Variable	Open ($n=231$)	Arthroscopic ($n=464$)	p value
Any adverse event	112 (49%)	158 (34%)	0.0002
Bleeding required transfusion	31 (13.4%)	18 (3.6%)	0.0001
Home discharge	126 (55%)	310 (67.5%)	0.0013
Recurrent joint infection	11 (4.8%)	27 (5.8%)	n.s
Wound infection	5 (2.2%)	9 (1.9%)	n.s
Superficial infection	0 (0%)	1 (0.2%)	n.s
Deep infection	5 (2.2%)	8 (1.7%)	n.s
Infectious complications	39 (17%)	69 (15%)	n.s
Sepsis	35 (15.2%)	59 (12.7%)	n.s
Pneumonia	4 (1.7%)	14 (3.0%)	n.s
Urinary tract infection	3 (0.4%)	5 (0.7%)	n.s
Thromboembolic event	6 (2.6%)	14 (3.0%)	n.s
Pulmonary embolism	0 (0%)	2 (0.4%)	n.s
Deep venous thrombosis	6 (2.6%)	12 (2.6%)	n.s
Mortality	2 (0.9%)	8 (1.7%)	n.s
Readmission	33 (14%)	51 (11%)	n.s
Reoperation	32 (14%)	46 (10%)	n.s

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Analyse multivariée

	OR	CI	p
Risque de saignement élevé avec nécéssité transfusion	3,79	2-02-7,13	0,0001
RAD	3,79	2-02-7,13	0,0001
Risque d'effets secondaires<30j	1,8	1,28-2,52	0,0006

Knee Surgery, Sports Traumatology, Arthroscopy

Open Compared with Arthroscopic Treatment of Acute Septic Arthritis of the Native Knee

Brenton P. Johns, MBBS, Mark R. Loewenthal, MBBS, FRACP, and David C. Dewar, MBBS, FRACS, FAOrthoA

Investigation performed at the Bone and Joint Institute and the Department of Immunology and Infectious Diseases, Royal Newcastle Centre and John Hunter Hospital, Newcastle, Australia

- ❑ 2000-2015 Monocentrique Rétrospectif

- ❑ Arthroscopie: abord antérolatéral Médial ou supéro-latéral
- ❑ Arthrotomie antéro-médiane Antéro-latérale

- ❑ Critères Newmann

- ❑ Nécessité de reprise chirurgicale

TABLE II Comorbidities and Risk Factors

	Arthroscopic Group* (N = 119)	Open Group* (N = 42)	P Value
No systemic risk factors†	45 (38%)	10 (24%)	0.130
Smoking	37 (31%)	17 (40%)	0.342
Crystal arthropathy	25 (21%)	7 (17%)	0.656
Diabetes	15 (13%)	8 (19%)	0.313
Chronic liver disease	14 (12%)	8 (19%)	0.295
Intravenous drug use	11 (9%)	6 (14%)	0.386
Chronic renal failure	14 (12%)	3 (7%)	0.563
Rheumatoid arthritis	8 (7%)	1 (2%)	0.448
Immunosuppressants	11 (9%)	3 (7%)	0.999
Previous ipsilateral knee surgical procedure	21 (18%)	10 (24%)	0.373

*The values are given as the number of patients, with the percentage in parentheses. †These patients had none of the risk factors listed, excluding a previous ipsilateral knee surgical procedure.

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TABLE III Etiology of Septic Arthritis

Etiology	Arthroscopic Group* (N = 119)	Open Group* (N = 42)	P Value
Hematogenous spread	70 (59%)	28 (67%)	0.463
Superficial wound	12 (10%)	4 (10%)	0.999
Direct trauma	13 (11%)	3 (7%)	0.566
Local knee surgical procedure	5 (4%)	4 (10%)	0.241
Knee arthroscopy	11 (9%)	1 (2%)	0.187
Corticosteroid injection	8 (7%)	2 (5%)	0.999

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- ❑ Radio préopératoire disponible pour:
89/119 arthroscopie (75%) et pour 36/42 (85%) arthrotomie

- ❑ Ostéo-arthrite >=2 (Kellgren)
44% arthroscopie versus 58% arthrotomie
Non significatif

- ❑ Temps médian 1ère chirurgie 4 jours

Critères radiologiques de Kellgren et Lawrence

Grade	Critères radiologiques
0	Radio normale
1	Pincement de l'interligne articulaire avec ou sans ostéophytes
2	Ostéophytes, absence ou faible pincement articulaire
3	Ostéophytes de moyenne importance, pincement articulaire, sclérose, déformation possible
4	Gros ostéophytes, pincement marqué de l'interligne articulaire, sclérose sévère, déformation

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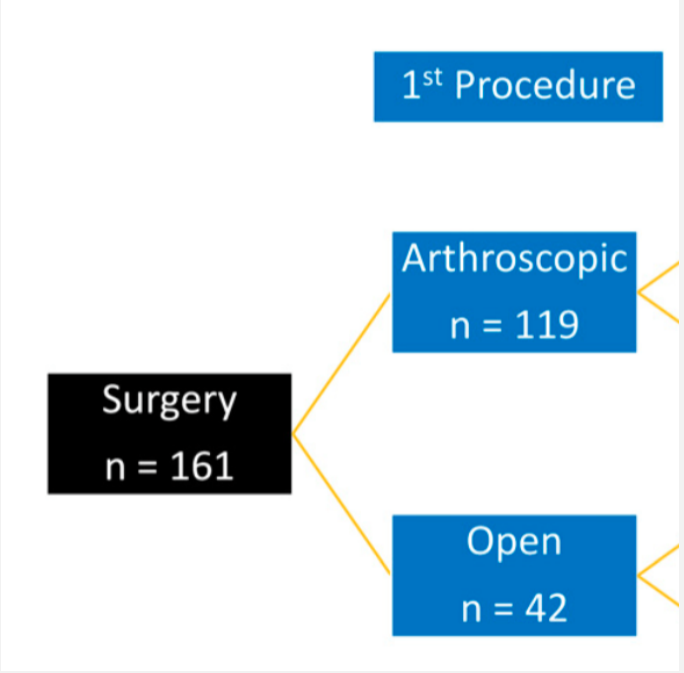

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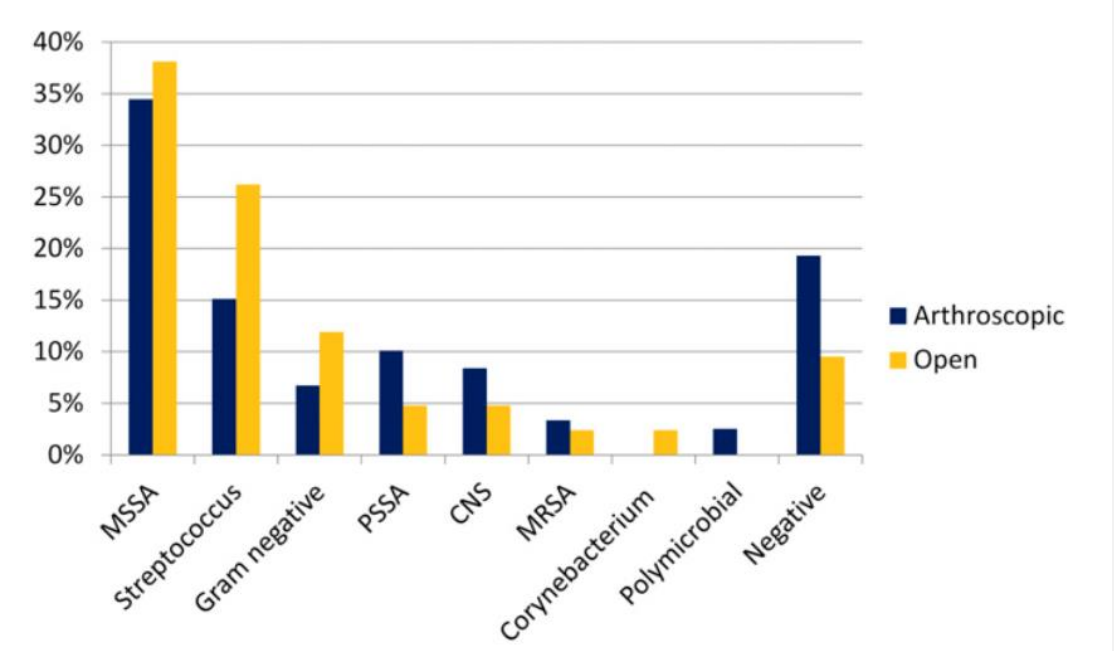
- ❑ Résultats microbiologiques
- ❑ Germe identifié dans 81% arthroscopies
Et 90% arthrotomie
- ❑ 17% germe non identifié



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- 50% (59/119) guérison après 1er lavage (arthroscopie)

Versus 29% ouvert (12/42) p=0,02

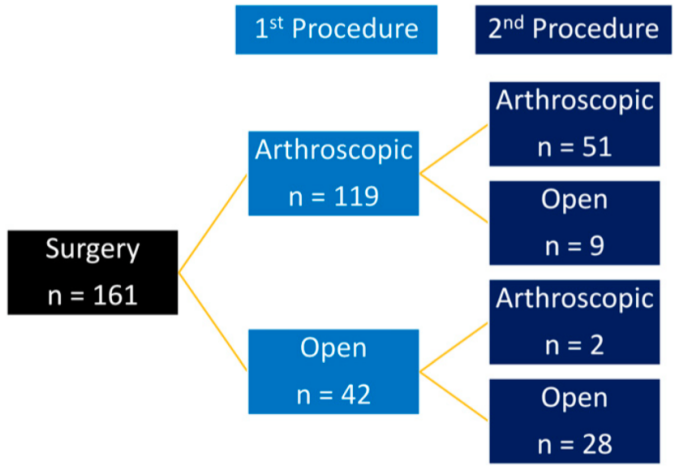

Fig. 2
Number of patients and surgical procedure type at the first irrigation procedure (light blue) and those who required a second irrigation procedure (dark blue).

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- ❑ 50% (59/119) guérison après 1er lavage (arthroscopie)

Versus 29% ouvert (12/42) p=0,02

- ❑ Après 2ème et 3ème procédure, taux succès plus grand arthroscopie p=0,02
  - ✓ Temps médian entre 2 procédures 3 jours
  - ✓ Nombre moyen de reprise 1,79 arthroscopie vs 2,42 arthrotomie
- ❑ Pas de différence de mortalité
- ❑ Temps médian Hospit 14j vs 20 ouvert

- ❑ Amplitudes articulaires post op dispo pour 125 patients (94 et 31)
  - ✓ Temps médian de récupération des Amplitude articulaire

13j après arthroscopie vs 23j ouvert

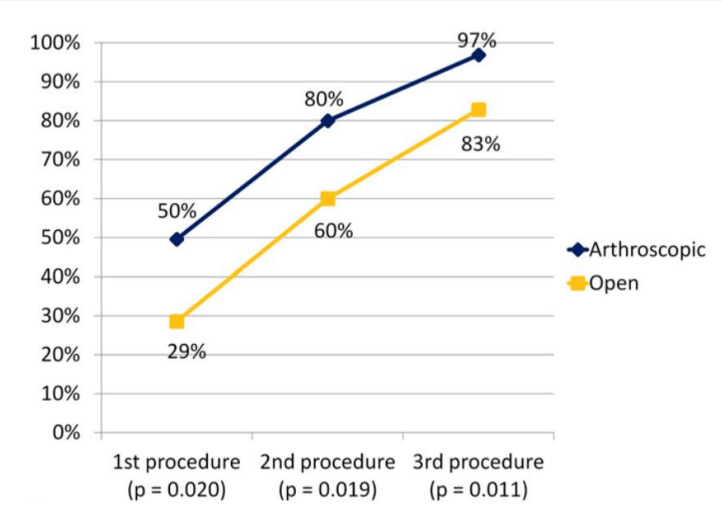

Fig. 3

Cumulative percentage success rate after the first, second, and third procedures on the basis of the primary outcome. The Fisher exact test was used for comparisons.

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CONCLUSION

ARTHROSCOPIE

- Moins de complication à J30
- RAD plus précoce
- Récupération meilleure des amplitudes meilleures
- Supériorité?

ARTHROTOMIE

- Dans quelle situation? ?
- Echec d'arthroscopie?
- Selon durée d'évolution des symptômes? (en lien avec risque de pannus)
- Type de germe?
- Terrain?