

Epidemiological evidence of nasal colonization of *S. aureus* strains in horses in 41 French riding centers and stud farms

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Introduction

This study is about the characterization of sporadic isolation of **Methicilline Resistant *Staphylococcus aureus*** (MRSA) that carry *mecA* gene, or the new variant *mecC*, responsible of β -lactamine resistance.

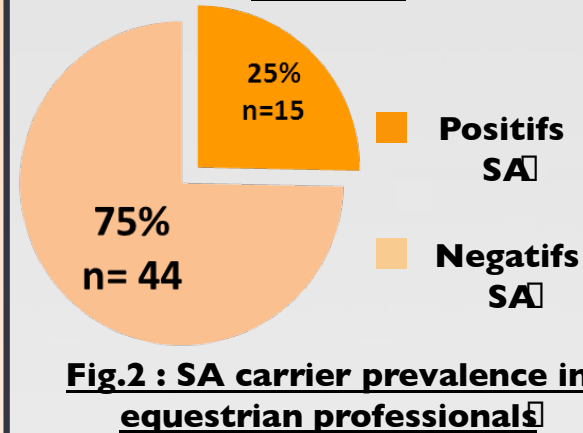
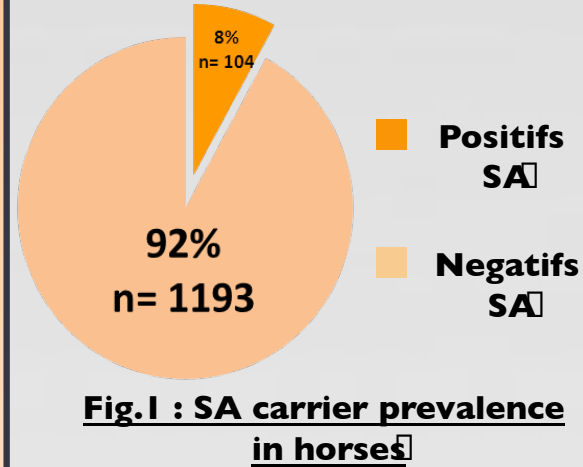
Main goals were to :

- Study nasal carrier prevalence of *S. aureus* (SA) in horses and equine centers
- Evaluate the animal and human carrier level of MSSA and MRSA for various farms
- Characterize each strain (phenotypically and molecularly)
- Determine a potential Animal/Human or Human/Animal transmission

Material and methods

Nasal swabs (Copan) were collected between July and September 2015. Each center, randomly selected 30 horses and voluntary personnel were included. After enrichment (BHI 2.5 % NaCl, 36 ° C, 24 hours), a chromID SAID agar (bioMérieux) was done.

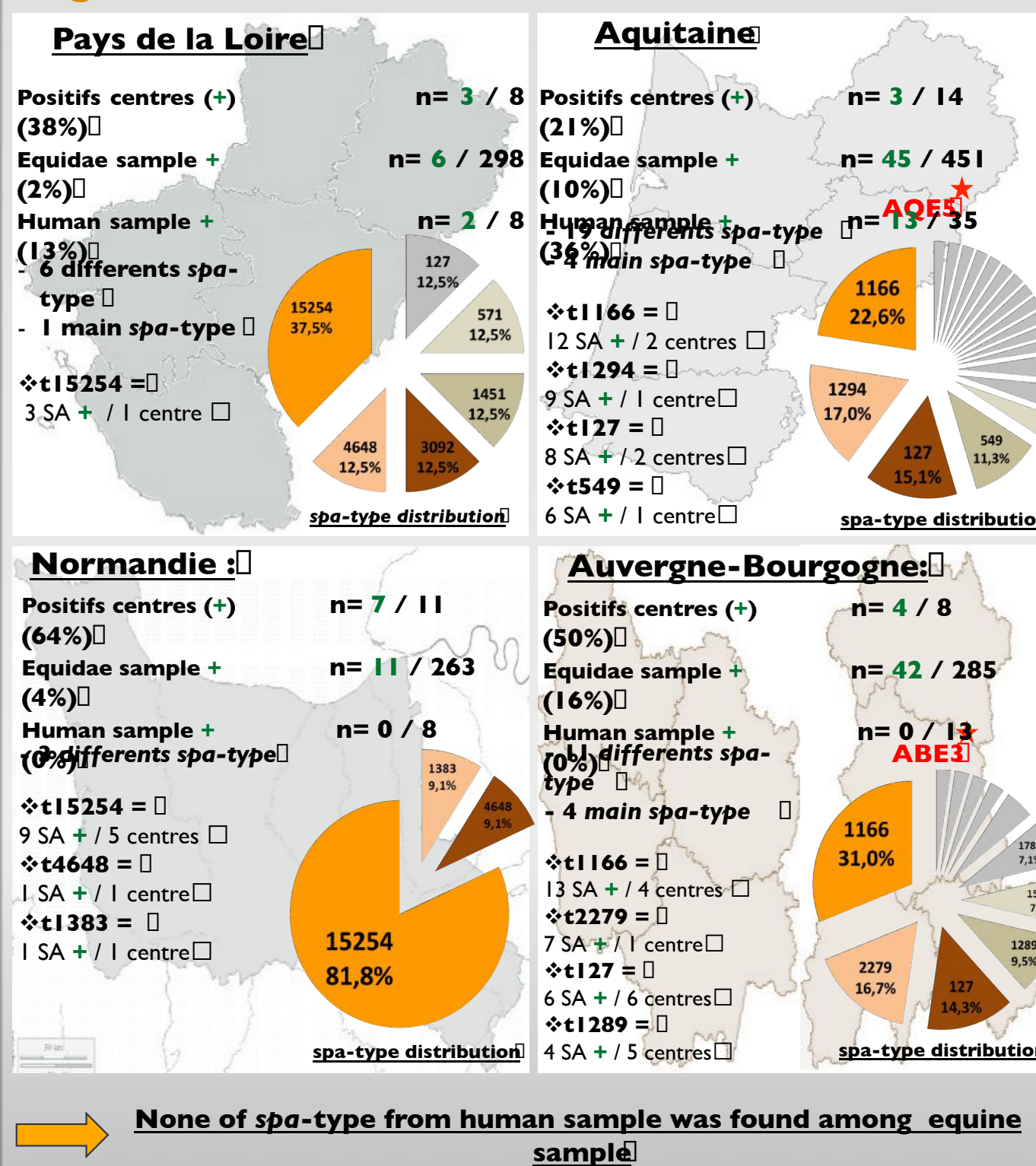
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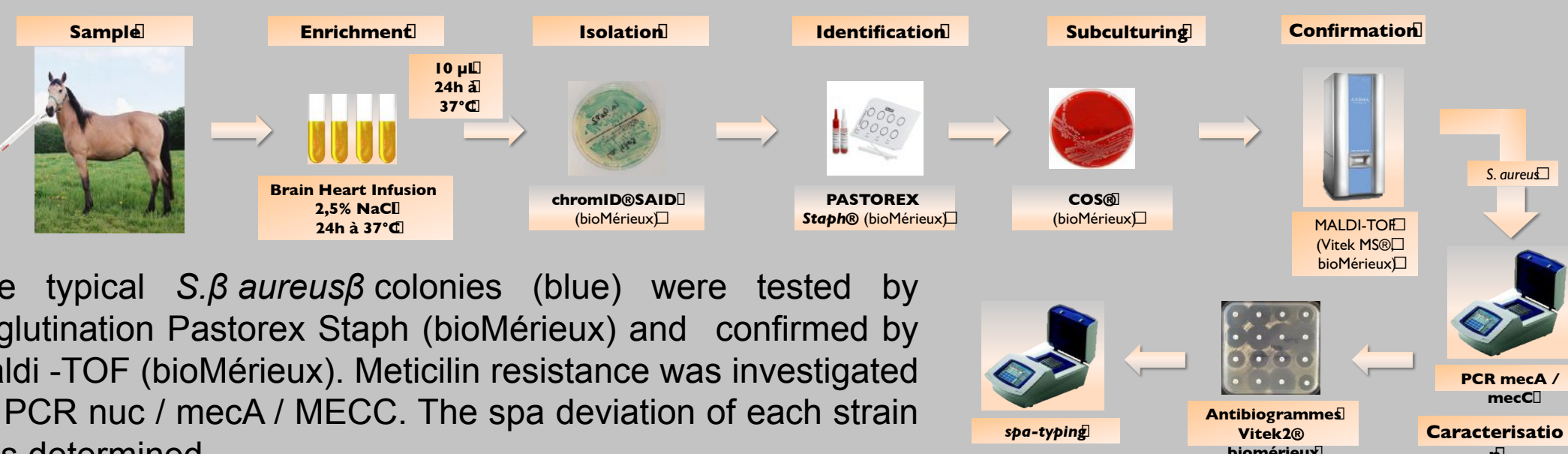
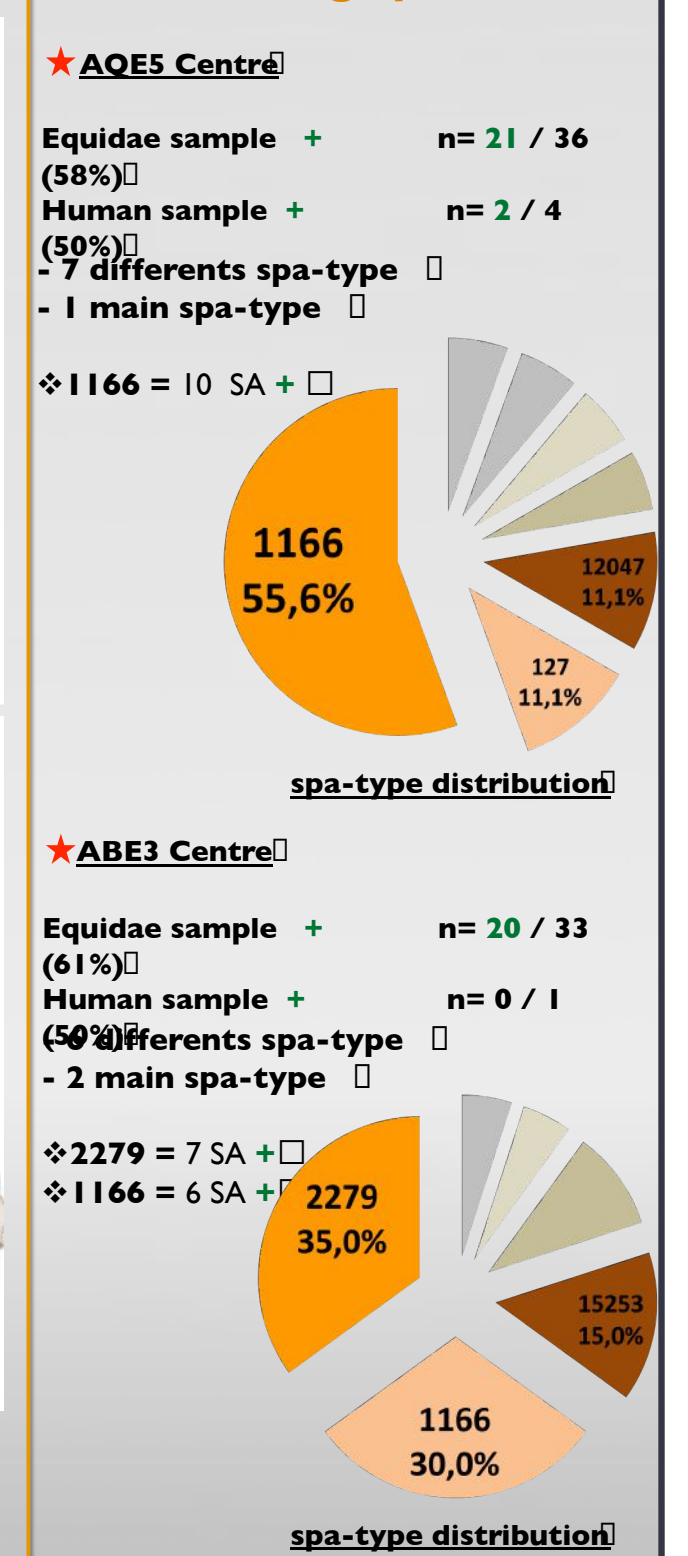
Antibiotic	Nb of R	% of R
Penicilline G	14	13%
Céfoxitine	0	0%
Vancomycine	0	0%
Kanamycine	1	1%
Fosfomycine	0	0%
Clindamycine	2	2%
Erythromycine	13	12%
Gentamicine	0	0%
Pristinamycine	0	0%
Teicoplanine	5	5%
SXT + Trimetoprime	0	0%
Linezolid	0	0%
Rifampicine	0	0%
Tobramicine	0	0%

Fig.3 : Antibiotic resistance patterns (n=111)

Regions



Centres – High prevalence



Conclusion

Absence of MRSA in nasal carriage indicates that the prevalence of such strains is probably low, although sporadically reported infections. Our data show also a **wide heterogeneity** of colonization prevalence across regions and from one center to another. It seems that horses, although they potentially represent a reservoir of MSSA strains, **do not favor the transmission to humans** in the professional practices or leisure context. However, **a continuous epidemiological survey in horses is needed** to ensure the tracking of the emergence of new circulating MSSA/MRSA clones.