

Table 4

Studies of the prevalence of MRSA colonization in pigs.

Population	Country	Prevalence
Pigs in slaughterhouses	The Netherlands	39%
Healthy pigs on farms	The Netherlands	80%
Healthy pigs on farms	Canada	25%
Healthy pigs on farms	United States	70%
Healthy pigs on farms	The Netherlands	11%
Healthy pigs on farms	Germany	13%
Research pig herd	Singapore	6%

Table 2
Studies of the prevalence of MRSA colonization in horses.

Population	Country	Prevalence
Hospital admissions	Belgium	10.9%
Hospital admissions	Canada	2.9%
Horses on farms	United States and Canada	0.7%
Horses in an equine hospital	United Kingdom	12%
Horses on farms	United States and Canada	4.7%
Horses on farms	Slovenia	0%
Horses on farms	United Kingdom	0%
Horses on farms	The Netherlands	0%

Table 1
Studies of the prevalence of MRSA colonization in dogs.

Population	Country	Prevalence
Dogs in the community	UK	0%
Dogs in the community	UK	0.4%
Dogs in the community	China (Hong Kong)	0.7%
Dogs in the community	Slovenia	0%
Dogs in the community	United States	4%
Dogs in the community	United States	0%
Veterinary hospital admissions	Denmark	0%
Veterinary hospital admissions	Canada	0.5%
Hospitalized dogs	UK	9%
Hospital visitation dogs	Canada	0%

Table 3
Studies of MRSA colonization in veterinarians and people with animal contact.

Study population	Country ^a	Prevalen
Small animal veterinarians	United States	4.4%
Large animal veterinarians	United States	15.6%
Equine veterinarians	United States	10.1%
Horse owners and veterinarians	United States and Canada	13%
Veterinary technicians	United States	12%
Veterinarians	Denmark	3.9%
Veterinarians and veterinary students with livestock contact	The Netherlands	4.6%
Swine veterinary conference attendees	The Netherlands	12.5%
Equine veterinary hospital personnel	Canada	14%
Equine farm personnel	Canada	12%
Small animal veterinary clinic staff	UK	18%
People with veal calf contact	The Netherlands	32%
Hospitalized people with pig or veal calf contact	The Netherlands	32%

^a Country where sampling was performed. Some individuals may have been from other countries.



Antimicrobial susceptibility of *Staphylococcus intermedius* and *Staphylococcus schleiferi* isolated from dogs

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ABSTRACT

The susceptibility to 23 antimicrobial agents was determined in 114 isolates of *Staphylococcus intermedius* and eight isolates of *Staphylococcus schleiferi* of canine origin. Overall, 73% of *S. intermedius* isolates and 37.5% of *S. schleiferi* isolates were susceptible to all the 23 antimicrobials tested. The large majority of *S. intermedius* strains retained susceptibility to antimicrobials currently employed in treatment of pyoderma (cephalosporins, cotrimoxazole and association amoxicillin–clavulanic acid) as well as to those effective against staphylococci (fusidic acid, rifampicin and fluoroquinolones). Resistance in *S. intermedius* was observed mainly against macrolides, chloramphenicol and lincosamides, while *S. schleiferi* isolates retained susceptibility to all antimicrobials except three of six fluoroquinolones. Although, our results confirm susceptibility to antimicrobials currently employed in pyoderma treatment, the several different resistance patterns observed for *S. intermedius* emphasize the importance of antimicrobial susceptibility testing of canine staphylococci to choose the most appropriate treatment of infections and to allow the prudent use of antimicrobial drugs in companion animals.

Table 1. Methicillin resistance detection in 136 *S. intermedius* strains by *mecA* PCR.

	No. (%) of strains
Methicillin-resistant <i>S. intermedius</i>	4 (2.9)
Methicillin-susceptible <i>S. intermedius</i>	132 (97,1)
total	136 (100)

Table 2. Antimicrobial susceptibility of 136 *S. intermedius* isolates.

Antimicrobials	Number (%) of susceptible strains		
	Total (n=136)	MRSI (n=4)	MSSI (n=132)
Amikacin	136 (100)	4 (100)	132 (100)
Amoxicillin/clav. ac.	132 (97,1)	0 (0) ^a	132 (100) ^a
Cefalexin	132 (97,1)	0 (0) ^a	132 (100) ^a
Cefoperazone	132 (97,1)	0 (0) ^a	132 (100) ^a
Chloramphenicol	119 (87,5)	3 (75)	116 (87,9)
Clindamycin	125 (91,9)	2 (50) ^a	123 (93,2) ^a
Cotrimoxazole	130 (95,6)	2 (50) ^a	128 (97) ^a
Enrofloxacin	134 (98,5)	2 (50) ^a	132 (100) ^a
Erythromycin	112 (82,4)	2 (50)	110 (83,3)
Fosfomycin	135 (99,3)	4 (100)	131 (99,2)
Fusidic acid	135 (99,3)	3 (75) ^a	132 (100) ^a
Gentamicin	134 (98,5)	4 (100)	130 (98,5)
Lincomycin	119 (87,5)	1 (25) ^a	118 (89,4) ^a
Marbofloxacin	134 (98,5)	2 (50) ^a	132 (100) ^a
Moxifloxacin	136 (100)	4 (100)	132 (100)
Norfloxacin	134 (98,5)	2 (50) ^a	132 (100) ^a
Oxacillin	132 (97,1)	1 (15) ^a	131 (99,2) ^a
Penicillin G	50 (36,8)	0 (0)	50 (37,9)
Pristinamycin	136 (100)	4 (50)	132 (100)
Rifampicin	135 (99,3)	4 (50)	131 (99,2)

^a Significant differences in susceptibility between MRSI and MSSI ($P<0,05$).

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Table 5
Studies of the prevalence of MRSP(I) colonization in dogs, cats and horses.

Population	Country	Prevalence
Healthy dogs	United States	1/59 (2%)
Healthy dogs	Slovenia	3/200 (1.5%)
Veterinary hospital admissions (dogs and cats)	Canada	4/193 (2%)
Dogs with pyoderma	United States	0/210 (0%)
Dogs with skin disease	United States	4/59 (7%)
Dogs with pyoderma	United States	2/57 (3.5%)
Dogs at a veterinary clinic (inpatients and outpatients)	Japan	17/57 (30%)
Healthy cats	United States	2/50 (4%)
Healthy cats	Brazil	6/150 (4%)
Cats with skin disease	United States	0/48 (0%)
Healthy horses	Slovenia	0/300 (0%)



European Medicines Agency
Veterinary Medicines and Inspections

London, 16 March 2009

EMEA/CVMP/SAGAM/81730/2006-Rev.1*

**COMMITTEE FOR MEDICINAL PRODUCTS FOR VETERINARY USE
(CVMP)**

**REVISED REFLECTION PAPER ON THE USE OF 3rd AND 4th GENERATION
CEPHALOSPORINS IN FOOD PRODUCING ANIMALS IN THE EUROPEAN UNION:
DEVELOPMENT OF RESISTANCE AND IMPACT ON HUMAN AND ANIMAL HEALTH**

In the SPC for all products containing 3rd and 4th generation cephalosporins the following should be reflected:

- For systemically administered broad spectrum cephalosporins (3rd and 4th generation) it should be reflected that these are to be reserved for the treatment of clinical conditions which have responded poorly, or are expected to respond poorly, to more narrow spectrum antimicrobial. Increased use, including use of the product deviating from the instructions given in the SPC, may increase the prevalence of bacteria resistant to the <antimicrobial>. Official, national and regional antimicrobial policies should be taken into account when the product is used.

Macrolodi e lincosamidi e resistenza

Resistance to macrolides can emerge in zoonotic pathogens such as *Campylobacter* spp meticillin-resistant *Staphylococcus aureus* (MRSA). Transferable resistance genes can emerge in, *Enterococcus* spp colonising animals, and these genes can potentially be transferred to bacteria colonising or infecting humans.



European Medicines Agency
Veterinary Medicines and Inspections

London, 22 June 2009

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**COMMITTEE FOR MEDICINAL PRODUCTS FOR VETERINARY USE
(CVMP)**

**CONCEPT PAPER ON THE USE OF MACROLIDES, LINCOSAMIDES AND
STREPTOGRAMINS IN FOOD-PRODUCING ANIMALS IN THE EUROPEAN UNION:
DEVELOPMENT OF RESISTANCE AND IMPACT ON HUMAN AND ANIMAL HEALTH**

Farmaco-resistenza microbica

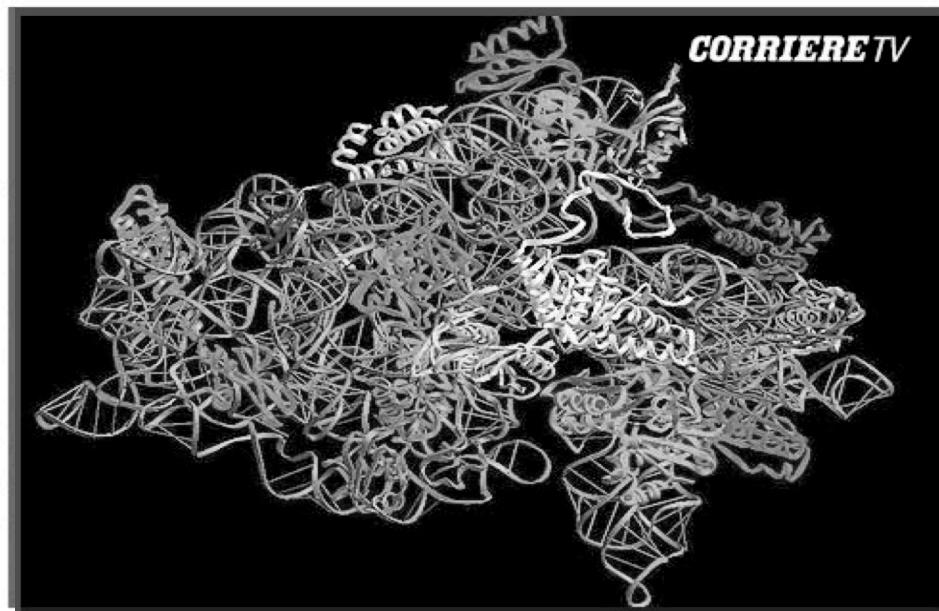
Continuo aumento dei ceppi batterici
resistenti → problema sanitario

Diminuzione della ricerca verso nuove
molecole → problema industriale

ADA YONATH, LA PRIMA DONNA IN QUESTO SETTORE A OTTENERE IL PREMIO DAL 1964

Chimica: il Nobel per lo studio dei ribosomi e degli antibiotici

Agli americani Venkatraman Ramakrishnan, Thomas Steitz e all'israeliana Ada Yonath



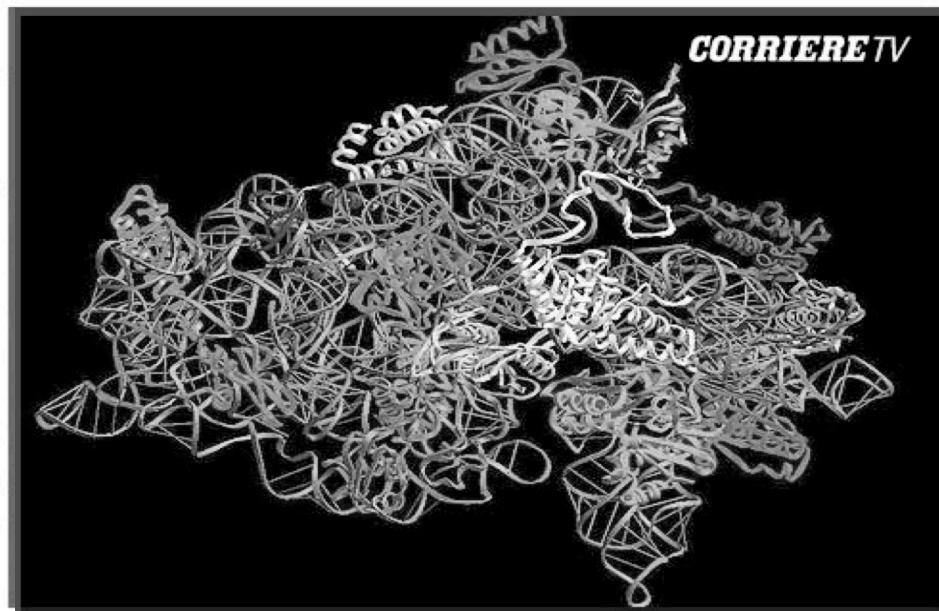
STOCCOLMA - Il premio Nobel per la chimica è stato assegnato a Venkatraman Ramakrishnan, Thomas Steitz e Ada Yonath per i loro studi sulla struttura dei ribosomi. «Dal momento che i ribosomi sono fondamentali per la vita, sono un obiettivo importantissimo anche per i nuovi antibiotici ha spiegato in un comunicato il Comitato del Nobel per la chimica presso l'Accademia reale svedese delle scienze. I primi due sono statunitensi, la terza è una scienziata israeliana Ada Yonath è la quarta donna alla quale viene assegnato il Nobel per la chimica e la prima d

1964. I tre si dividono il premio di circa 970 mila euro. I ribosomi sono le strutture cellulari in cui vengono "fabbricate" le proteine, veri mattoni «fondamentali» per la struttura degli organismi e per il loro funzionamento. I ribosomi, sono, fra l'altro, un bersaglio importante per l'azione degli antibiotici, quindi le ricerche su questi «organelli» hanno una ricaduta diretta anche per l'evoluzione della terapia antinfettiva. molti degli antibiotici attualmente in uso curano le malattie bloccando la funzione dei ribosomi batterici.

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