

Selective Dry Cow Therapy: Dynamics of IMI and risk factors of new IMI over dry period

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Systematic use of antibiotic dry cow therapy (DCT) is nowadays challenged.

An alternative is selective DCT: only cows assumed infected at drying-off are treated. But efficiency of such strategy is not well known. Without DCT, prevention of new intramammary infection (IMI) means acting on risk factors (RF) of new IMI.

Objectives : to observe the dynamics of IMI during dry period (DP),
to assess, in selectively untreated cows, risk factors of new IMI.

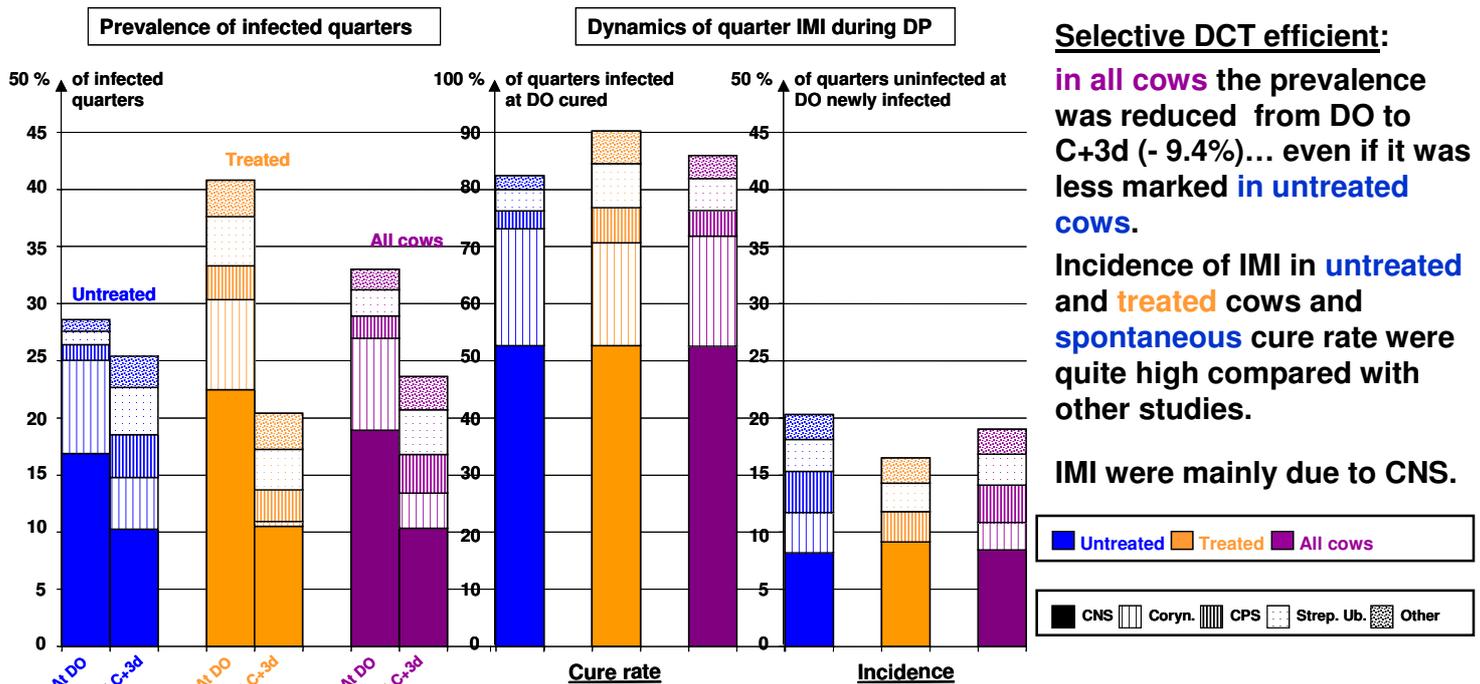
Material and Methods

556 cows from 28 dairy herds under selective DCT were enrolled from June 2003 to September 2004.

Cows left untreated were chosen by each farmer (based on SCC level, milk yield, parity, mastitis history ...). Microbiological analysis of quarter milk samples were done at drying-off (DO) and 3 days after calving (C+3d). A new IMI occurred when a quarter was uninfected at DO and infected at C+3d. A cure occurred when a quarter was infected at DO and uninfected at C+3d.

In the selectively untreated cows (245 cows), identification of risk factors was done with a multivariate model at quarter level with cow effect as repeated and herd effect as random.

Results & Discussion



Some RF were classically described or with expectable effect.

One RF was known but with reversed effect. This was due to our particular study sample.

Risk factor of new IMI in untreated cows	RR
Cow infection status at DO (<i>infected vs. uninfected</i>)	1.52
Preceding lactation length (>355d. vs. [305d-355d])	1.65
Dry period length (>65d vs. ≤65d)	1.46
Concentrate distribution until DO (<i>yes vs. no</i>)	1.35
Milk yield at DO (<18kg vs. ≥18kg)	1.93

Conclusion

The efficiency of selective DCT could be improved by better identification criteria of infected cows in order to treat them :

16% of new IMI prevented if all untreated cows would have been uninfected.