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► **To cite this version:**

Claire Lemaire, Pauline Otz, Gilles Le Sobre, Marie-Anne Arcangioli. Risk factors of calf omphalitis: a clinical study. European Buiatric Forum, Dec 2015, Roma, Italy. hal-03455662

**HAL Id: hal-03455662**

**<https://vetagro-sup.hal.science/hal-03455662>**

Submitted on 29 Nov 2021

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# Risk factors of calf omphalitis: a clinical study

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**Abstract :** Newborn calf omphalitis, following navel infection by fecal bacteria after calving, ranks third of neonatal pathology. The mortality rate of this affection is close to 8% in French herds and can affect herds in an enzootic way. The infection is multifactorial. In this trial, 128 calves coming from 15 dairy farms, born in autumn, were examined and followed for 3 months to assess risk factors for omphalitis. 65 were Montbeliard breed calves, 35 were Prim Holstein, and others were crossbred. Colostrum quality and colostral transfer, calving management, calf housing and many other factors were evaluated in this study. 13 omphalitis were detected and the results confirmed that male are more at risk to develop omphalitis than female calves. Montbeliard breed and cow parity above 2 are also significant risk factors of omphalitis ( $p < 0.05$ ). This last result is surprising but may be the consequence of farmers increased attention at 1<sup>st</sup> calving. Calf intensive care at birth and housing conditions immediately after birth require further assessment as results display a tendency. These results need further development to establish some factors to reduce navel disease.

**Introduction :** New born calf omphalitis, following navel infection by fecal bacteria after calving, ranks third of neonatal pathology<sup>1</sup>. The mortality rate of this affection is close to 8% in French herds and can affect herds in an enzootic way. The infection is multifactorial.



It can need surgery

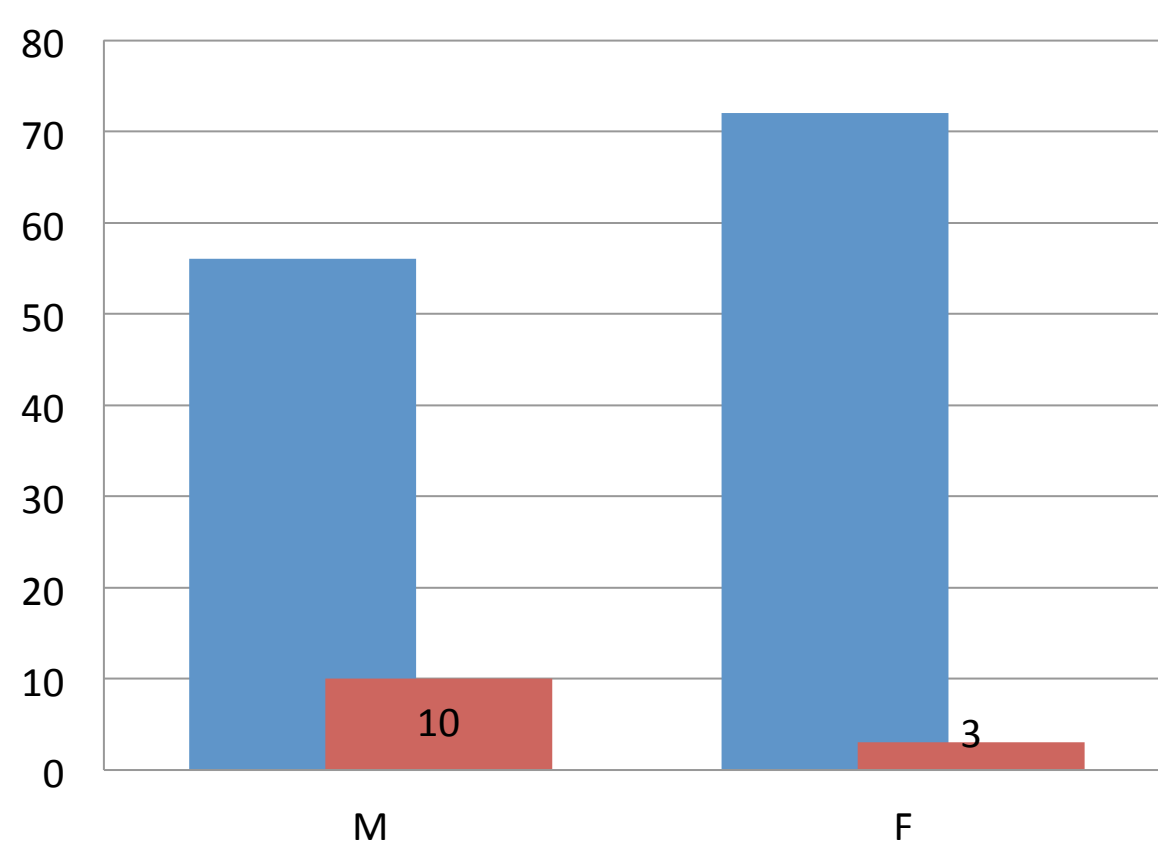


## Materials and methods :

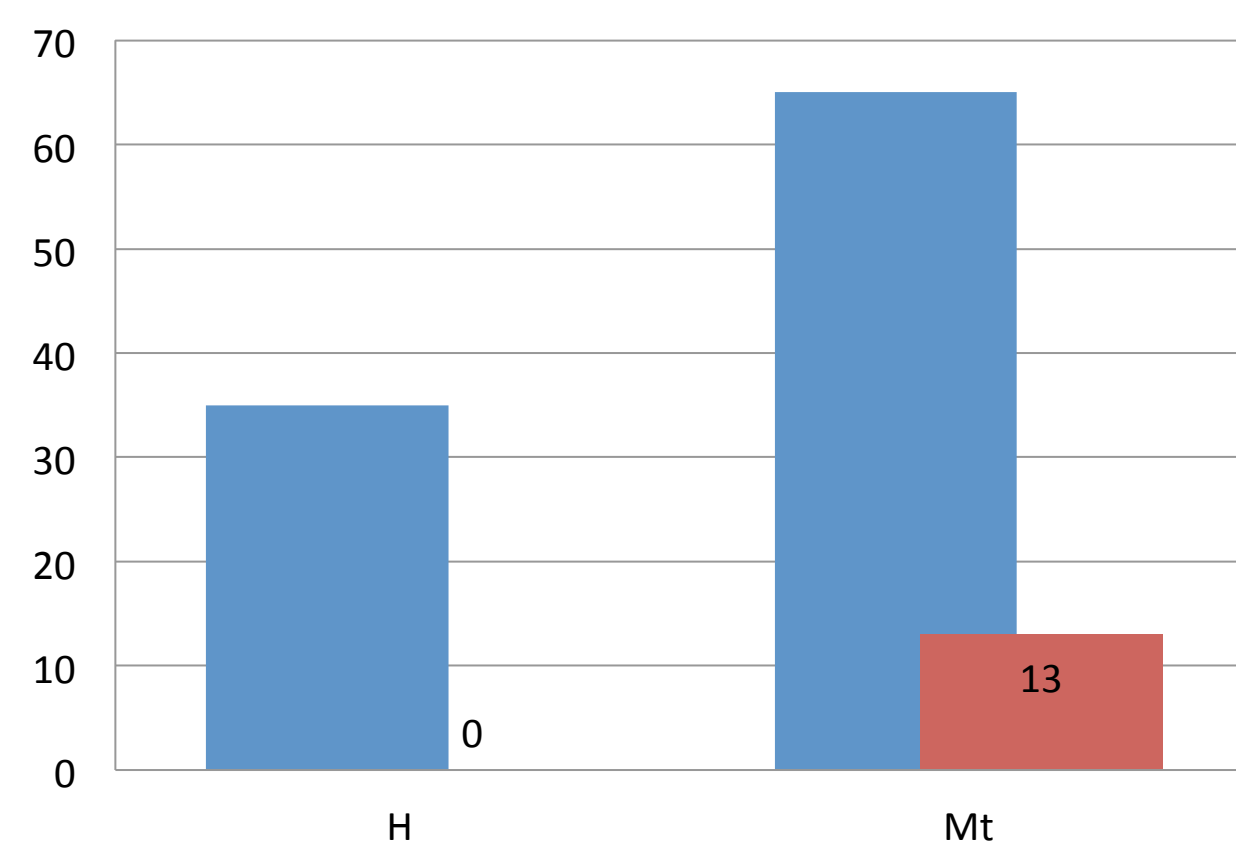
128 calves, born in autumn, were examined the first week, ten days after and at 1 month of age, in 15 dairy farms and followed until 3 months to assess risk factors for omphalitis. 65 were Montbeliard breed calves, 35 were Prim’Holstein, and others were crossbred. Quality of colostral transfer, calving characteristics, calf housing and some other factors were evaluated in this study.

**Results :** 13 omphalitis were detected (prevalence : 10%). Male are more at risk to develop omphalitis than female calves<sup>2</sup>. Montbeliard breed and cow parity above 2 calving are also **significant risk factors** of omphalitis ( $p < 0.05$ ).

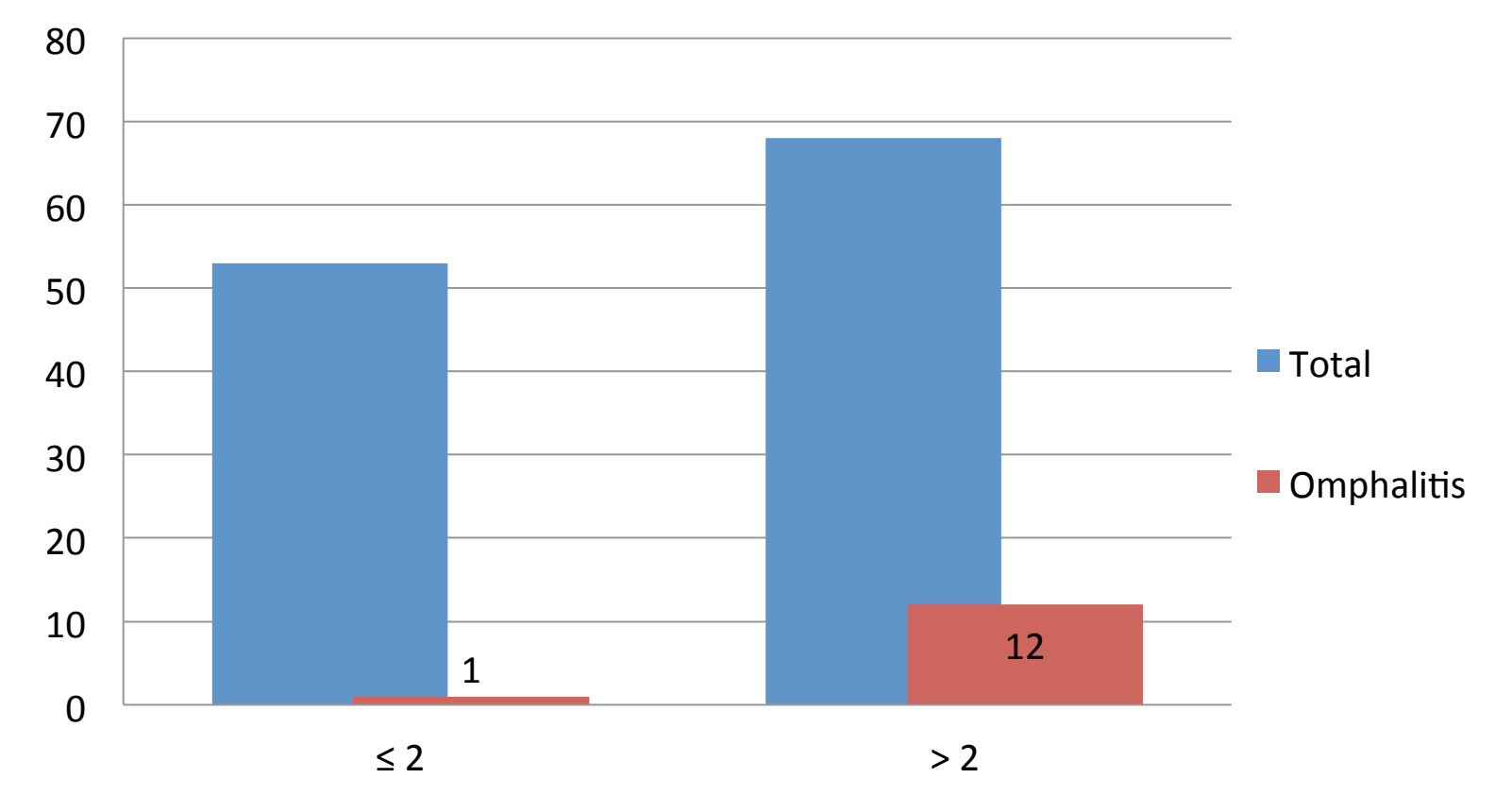
### Gender



### Breed

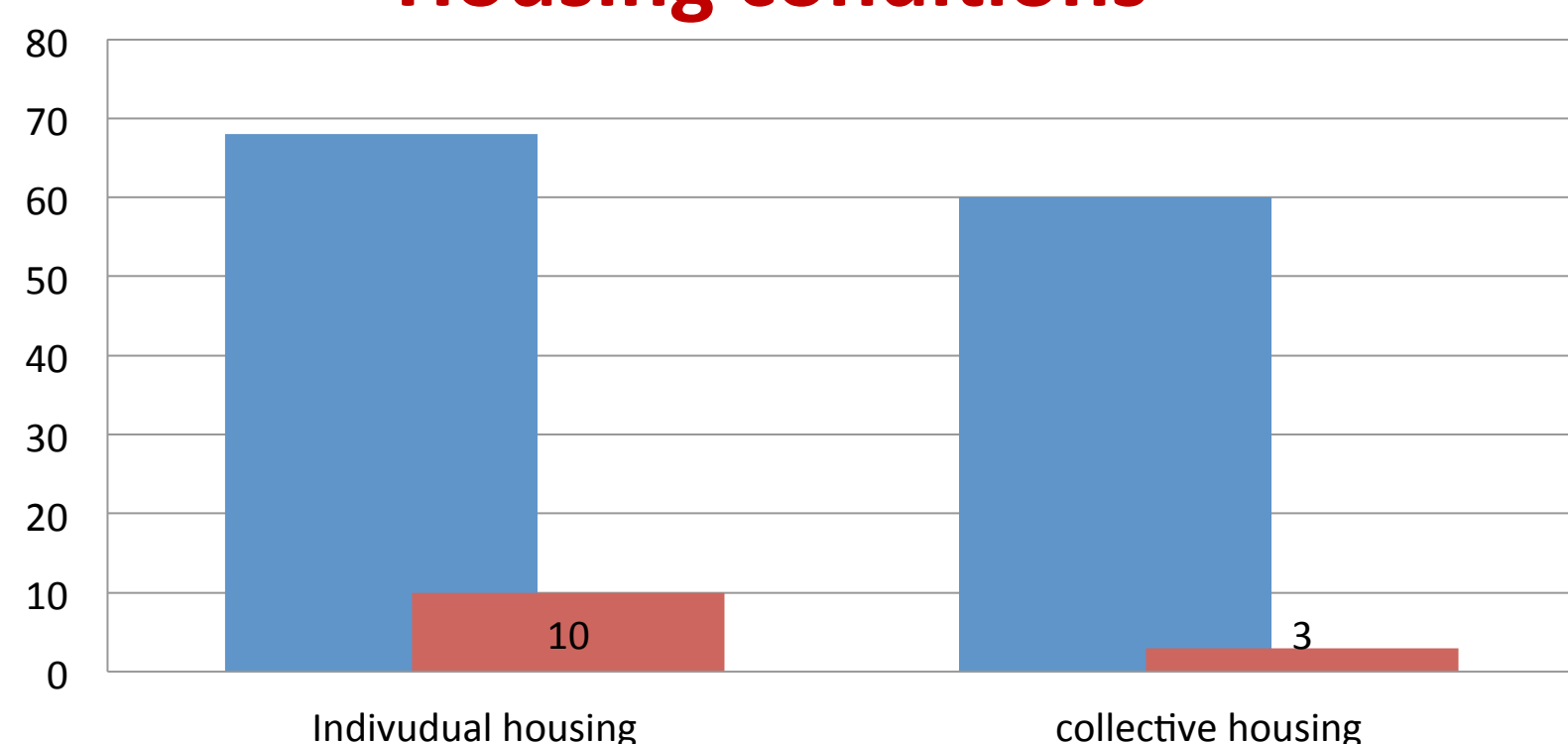


### Cow parity

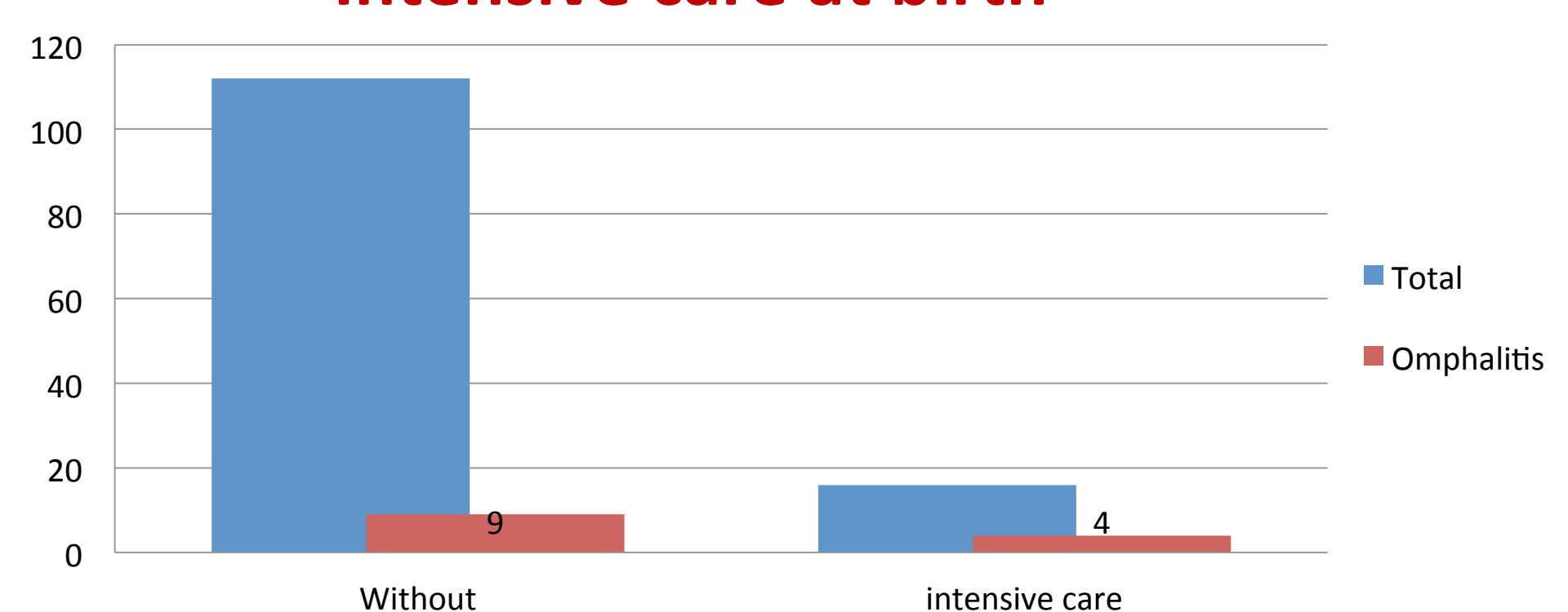


Housing conditions immediately after birth and calf intensive care at birth require further assessment as results display a **tendency** ( $p < 0.1$ ).

### Housing conditions



### Intensive care at birth



**Discussion :** Gender and breed results confirmed precedent studies. Parity’s influence results surprising but may be the consequence of farmers increased attention at 1<sup>st</sup> calving. The other results need further development to establish if some factors influence navel disease. Next step would be to investigate Charolais breed where omphalitis seems more frequent, compared to other suckler calves breed because of importance of calf weight (around 60 kg), birth difficulties and cerebral anoxia are more prevalent than in dairies.



1- Ottosen H.E., 1954 ; Vallet et Navetat, 1988

2- Top W., 1977 ; Bohy et Moissonnier, 1990)