Effect of immunocastration on body lesions in heavy pigs: preliminary results

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1. Introduction

Immunocastration is an interesting alternative to surgical castration in piglets. Studies have shown promising results in terms of production performance and improvement of animal welfare (e.g., preventing distress and pain caused by surgical castration) [1].

Aggressive and mounting behaviours, that often result in body lesions, seems to be reduced in light pig production [2-4]; however, no studies have yet investigated animal welfare of heavy pigs subjected to immunocastration.

This study aimed at evaluating the effect of immunocastration on welfare of heavy pigs by monitoring body lesions during growing and fattening period

2. Materials & Methods

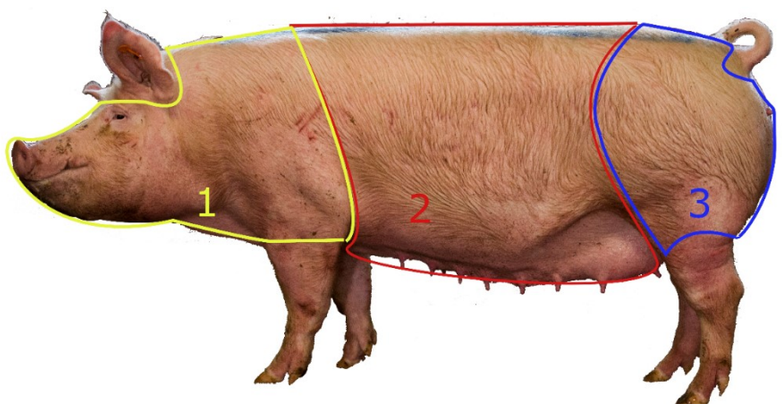
188 commercial-hybrid male pigs were randomly allocated to two treatment groups:

- Immunocastration (IC; *n* = 94), pigs receiving Improvac® at 15, 22-24, 32, and 36 weeks of age
- Surgical Castration (SC; *n* = 94), pigs surgically castrated at 4 days of age, according to standard farming procedure

IC and SC pigs received the same feeding regimen, they were housed in the same conditions and their management complied with Dir. 2008/120/EC.

Before each Improvac® administration, body lesions of three anatomical regions were recorded through direct observations and scored on a three-point scale (none, mild, severe) [5].

Independent T-test was used to determine differences between groups at each time point.



Modified Welfare Quality® scoring system was used. Body lesion score of each animal was calculated by summing the single scores of each region.

3. Results

Body Lesion Score ± SE	Data Collection	Immunocastrated Pigs	Surgically Castrated Pigs	T-test	
	15 weeks	0.60 ± 1.04	0.20 ± 0.48	*p* = 0.001	*
	22 weeks	0.33 ± 0.55	0.19 ± 0.47	*p* = 0.068	*n.s.*
	32 weeks	0.21 ± 0.50	0.18 ± 0.45	*p* = 0.703	*n.s.*
	36 weeks	0.06 ± 0.29	0.04 ± 0.20	*p* = 0.736	*n.s.*

Before the first Improvac® administration (15 weeks of age), IC pigs showed a significantly higher body lesion score (0.60±1.04) compared to SC (0.20±0.48) (P=0.001).

The body lesion score remained higher in the other time points, but the difference between groups was not significant.

4. Discussion

A high level of agonistic behaviour before the suppression of testicular function suggests anticipating the vaccination protocol in relation to the onset of puberty and increasing the number of interventions in heavy pigs. Further research is needed to evaluate the sustainability of different timing of immunocastration, maintaining high level of animal welfare together with productive and economic benefits of the procedure.

References

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Ethic statement

The protocol was approved by the Animal Welfare Committee of the University of Milan (OPBA_26_2020), according to the Directive 2010/63/EU.