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USING THERMOGRAPHY AS A DIAGNOSTIC TOOL FOR OMPHALITIS ON NEWBORN CALVES

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OMPHALITIS ON NEWBORN CALVES**

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ABSTRACT:

The objective was to verify if thermography is able to detect inflammatory signs on the skin surface by comparing the umbilical region of healthy calves and calves presenting omphalitis. Twenty healthy calves (control group) had their lateral umbilical region and abdominal region examined with a thermal imaging camera in order to obtain a regional thermograph. The thermographic examination was then performed on 27 calves (Omphalitis group) presenting omphalitis diagnosed by physical examination. The maximum temperature of the lateral umbilical region in calves (aged <30 days) was $35.7^{\circ}\text{C} \pm 1.8$ for the control group and $37.0^{\circ}\text{C} \pm 1.1$ for the omphalitis group and was significantly different ($p=0.002$). No difference was found on the temperature of the abdominal umbilical region. In the abdominal and lateral region the highest temperature site was differently positioned between the groups. In conclusion, thermography is able to detect inflammatory signs on the skin of newborn calves and has advantages as a non-invasive, fast and safe method of supporting veterinary diagnosis.

Key-words: Thermography, newborn calves, body temperature, omphalitis, inflammation.

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