THE SIGNIFICANCE OF "NAVEL ILL" AND OTHER LESIONS AT POST-MORTEM INSPECTION OF BOBBY CALVES

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ABSTRACT

Calves slaughtered for bobby veal in New Zealand are considered a public health risk if "acute inflammation of the umbilicus" is present at slaughter, because it is believed that the consumption of veal derived from these calves may subsequently "cause food-poisoning" as a result of bacterial dissemination throughout the carcass. This belief, however, has not been fully validated.

During the 1989 season, 54 calves were condemned for "navel ill" (0.465% of the total slaughtered) at Waitaki International's Feilding export slaughterhouse. Carcasses from these calves, along with 31 normal carcasses, were examined for the presence of septicemia (Part I). The study involved the detailed gross examination of the carcass and viscera, together with microbiological examination of umbilical vein, liver and muscle, and histopathological examination of the umbilical vein, liver, and kidney. The working definition of septicemia for the purposes of this study was the presence of large numbers of bacteria in the general circulation, involving slight or absent clinical signs and with or without gross evidence of early systemic infection in the carcass. Bacteraemia was defined as the presence of smaller numbers of bacteria in the general circulation, with or without gross evidence of localisation in the carcass. Although differing from the several definitions, particularly of septicemia, in the literature, these were proposed as appropriate definitions in the context of the slaughterhouse. The presence or absence of septicemia was determined on the basis of the combined gross lesions in the carcass, histopathological lesions in the liver and kidney, and microbial isolates from the liver and carcass musculature. The presence of infection extending from the umbilicus was determined by histopathological and microbiological examination of the umbilical vein near the liver.

"Navel ill" could be sub-classified into three categories:

1. Umbilical vessel infection and carcass lesions indicative of systemic spread, with or without umbilical infection.
2. Umbilical vessel infection, with or without umbilical infection.
3. Umbilical infection alone.
Three carcasses condemned for "navel ill" had no abnormalities of the umbilicus or umbilical vessels. Of the remaining 51 carcasses, one (2%) had gross, histological and microbiological evidence of septicaemia, and seventeen (33%) had lesions indicative of bacteraemia or septicaemia. The proportion of condemned carcasses which were bacteraemic decreased as the condemnation criteria expanded to include all three categories of "navel ill". There was a significant risk of bacteraemia in carcasses from all sub-categories of "navel ill", except category (3), when compared with normal carcasses. Insufficient data were generated to allow assessment of the risk of septicaemia being present in carcasses from calves with "navel ill".

A second study was undertaken later in the 1989 season, and involved the detailed gross examination and description of 371 calves condemned for any reason at six export slaughterhouses; five in the North Island and one in the South Island. The major disease entities found in calves of this age and resulting in carcass condemnations were "navel ill" (197 (0.50%) carcasses), pneumonia (75 (0.19%) carcasses), arthritis (31 (0.08%) carcasses, and "white spotted kidneys" (30 (0.08%) carcasses). Peritonitis, jaundice, hepatic abscesses and "fever" occurred at very low rates (< 0.03%), while other lesions occurred sporadically.

The current inspection system in New Zealand requires calves with "acute inflammatory lesions" to be condemned. In this study, this requirement resulted in the condemnation of virtually all diseased calves, whether the disease was acute, chronic, generalised, localised or non-infectious in nature. There was, however, considerable variation found in the severity, age and likely pathogenesis of the lesions in each disease category. Because this "blanket" approach to disease in the bobby calf leads to unnecessary condemnation and wastage, it is suggested that more appropriate judgement criteria such as the trimming of localised infectious and traumatic lesions should be considered.
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