Research into Bovine TB in Wild Deer in the West of England

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Veterinary Deer Society
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Research into Bovine TB in Wild Deer

Overview of Previous work

- Species affected
- Information from CVO's reports

CSL/VLA wild mammal survey

- Protocol
- Pathology
- Results &Discussion

Further work

- Histopathology
- ? Targeted surveys

Overall Conclusions

Previous Work

Wild deer species in Great Britain with confirmed *Mycobacterium bovis*

ROE DEER – 1985 (Gunning)

RED DEER – 1985/6 (CVO report)

SIKA DEER – 1987 (Rose)

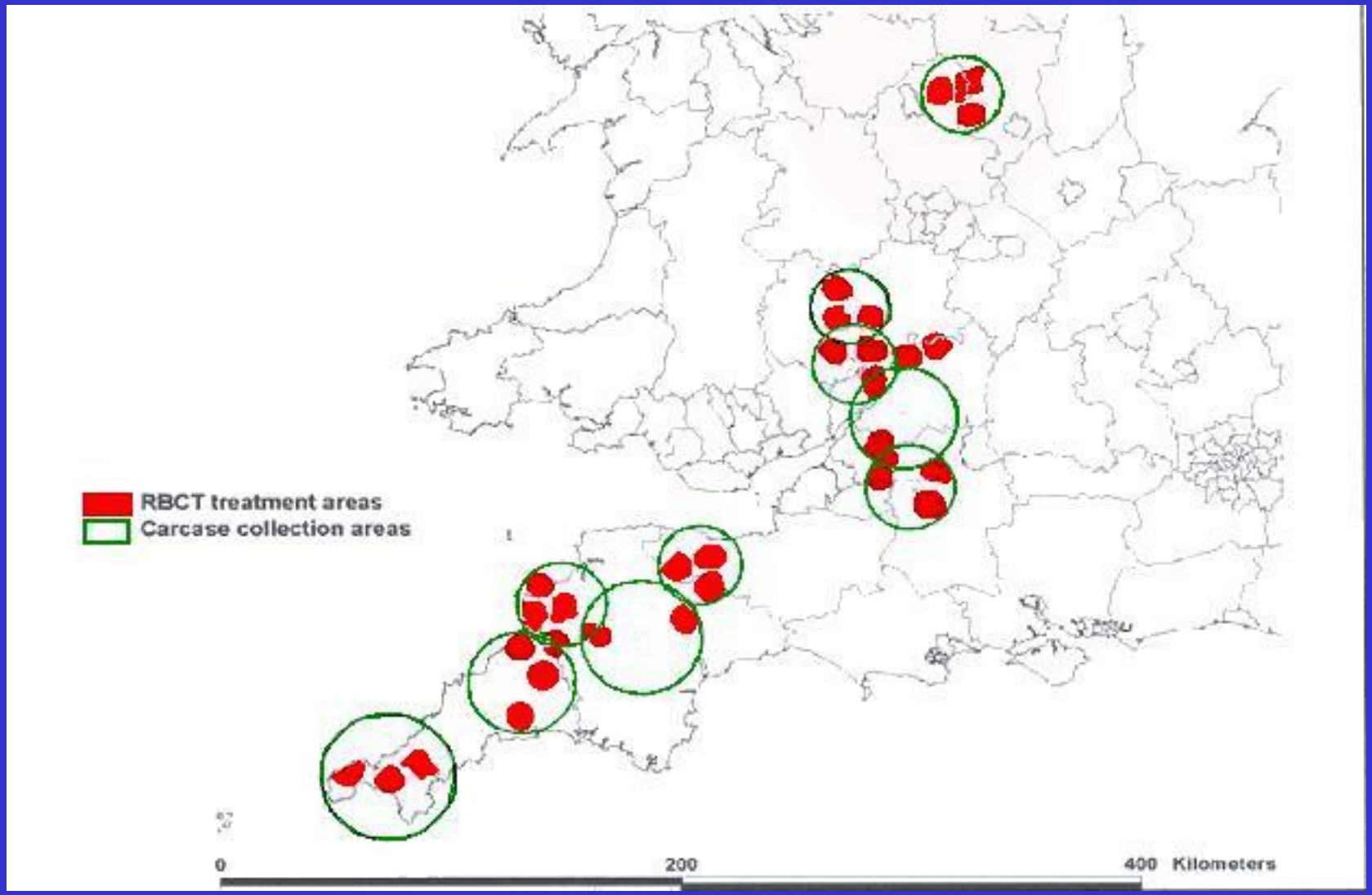
FALLOW DEER – 1988 (Fleetwood & others)

MUNTJAC – 2001 (Delahay & others)

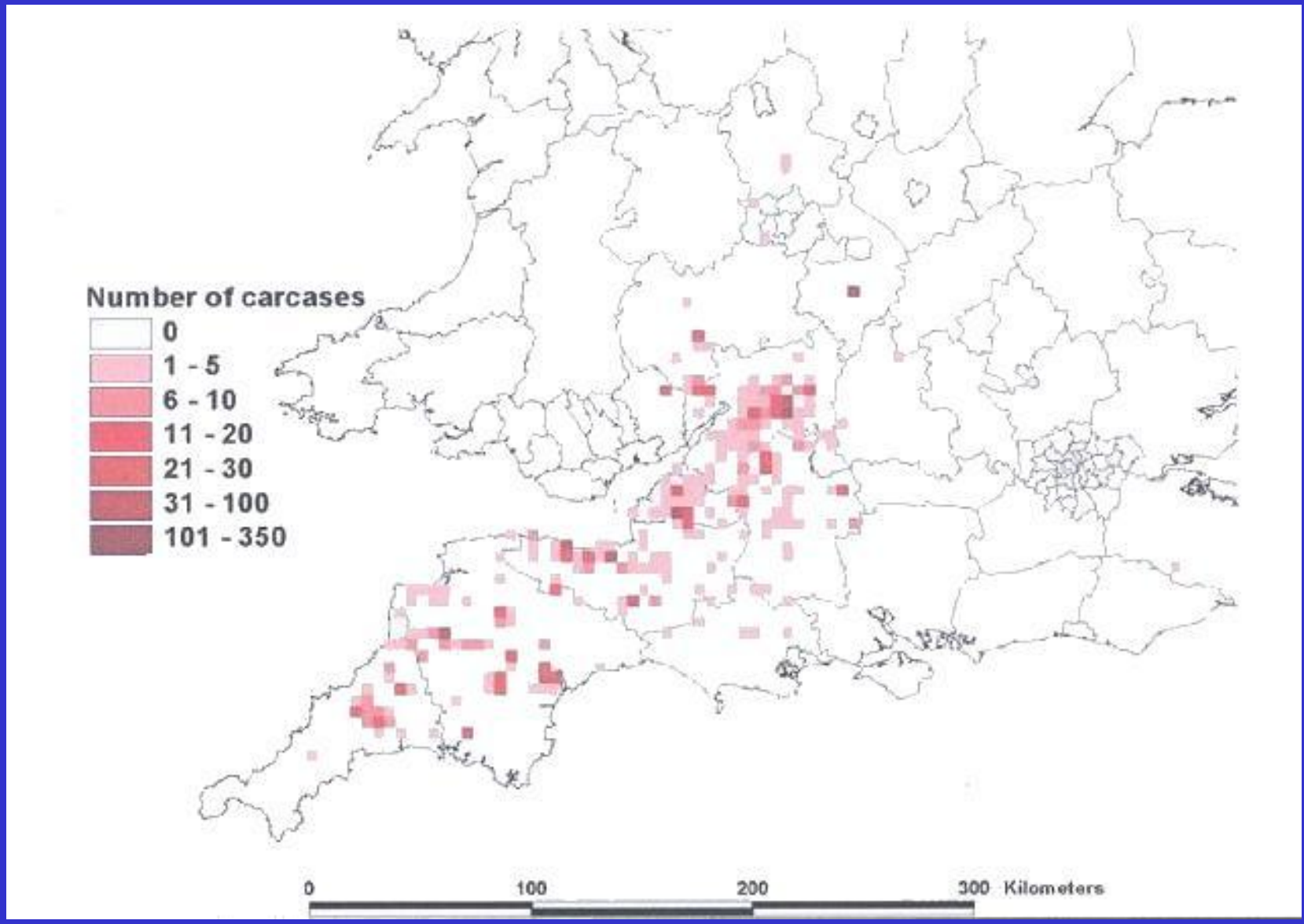
NUMBER OF SUSPECT CASES OF TB INVESTIGATED & CONFIRMED BY VLA
(Reports of the CVO, MAFF)

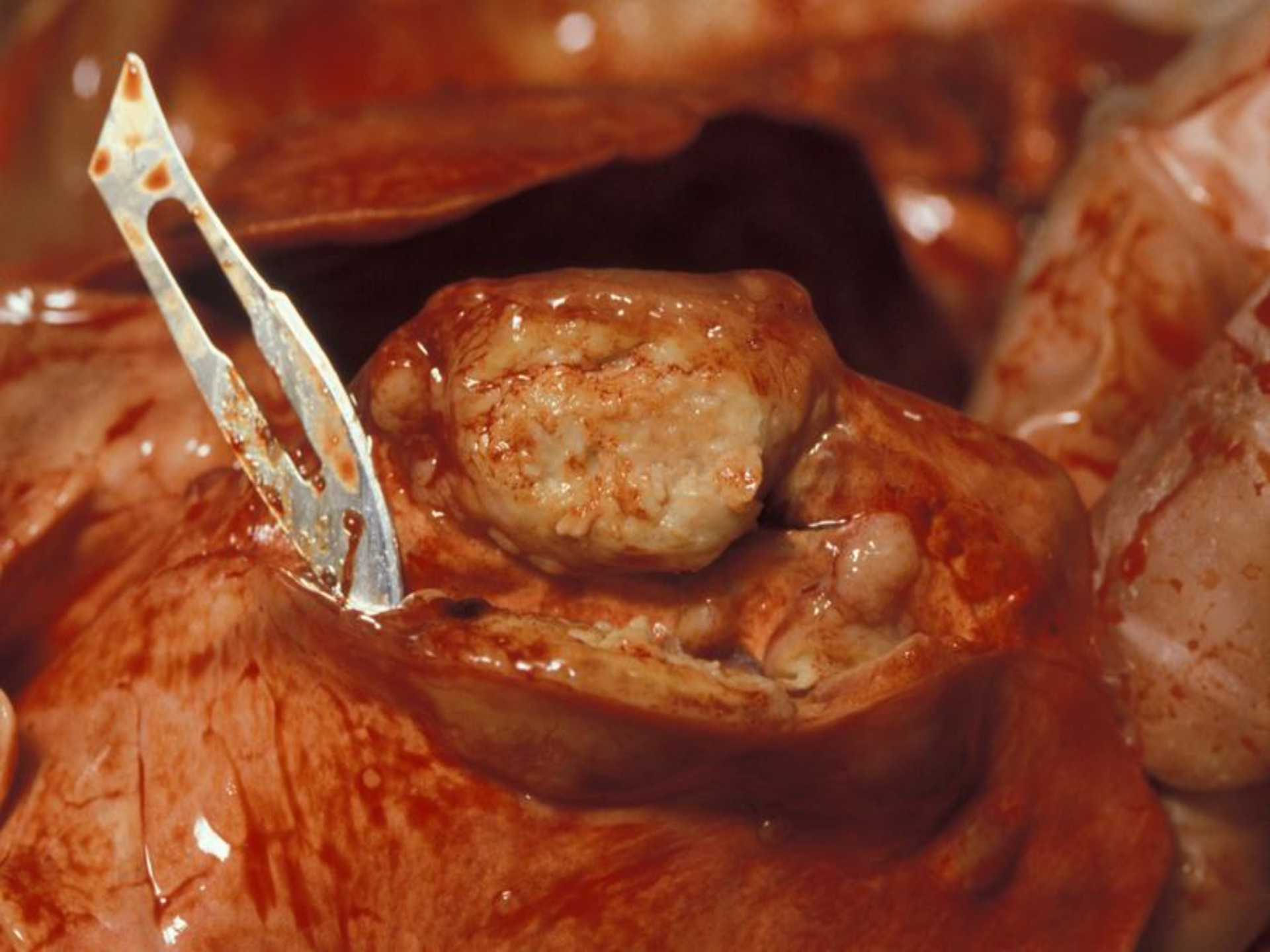
Year	Wild Deer	Farmed Deer	Park Deer	Total Confirmed (*M bovis +ve*)	Total Statutory Deer Submissions Investigated by VLA
1984 – 86	7	3		10	Approx. 2,000 in the 5 year period, most with no lesions
1987	0	?		?	
1988	2	8		10	
1989	3	2		5	Not known
1990	3	7		10	Not known
1991	0	0		0	37
1992	0	1		1	50
1993	1	0		1	33
1994	1	0		1	21
1995	3	0		3	Not known
1996	11	0		11	17+
1997	3	0		3	11
1998	6	1		7	37

Location of Krebs trial areas and priority mammal collection areas



Collections sites of Deer





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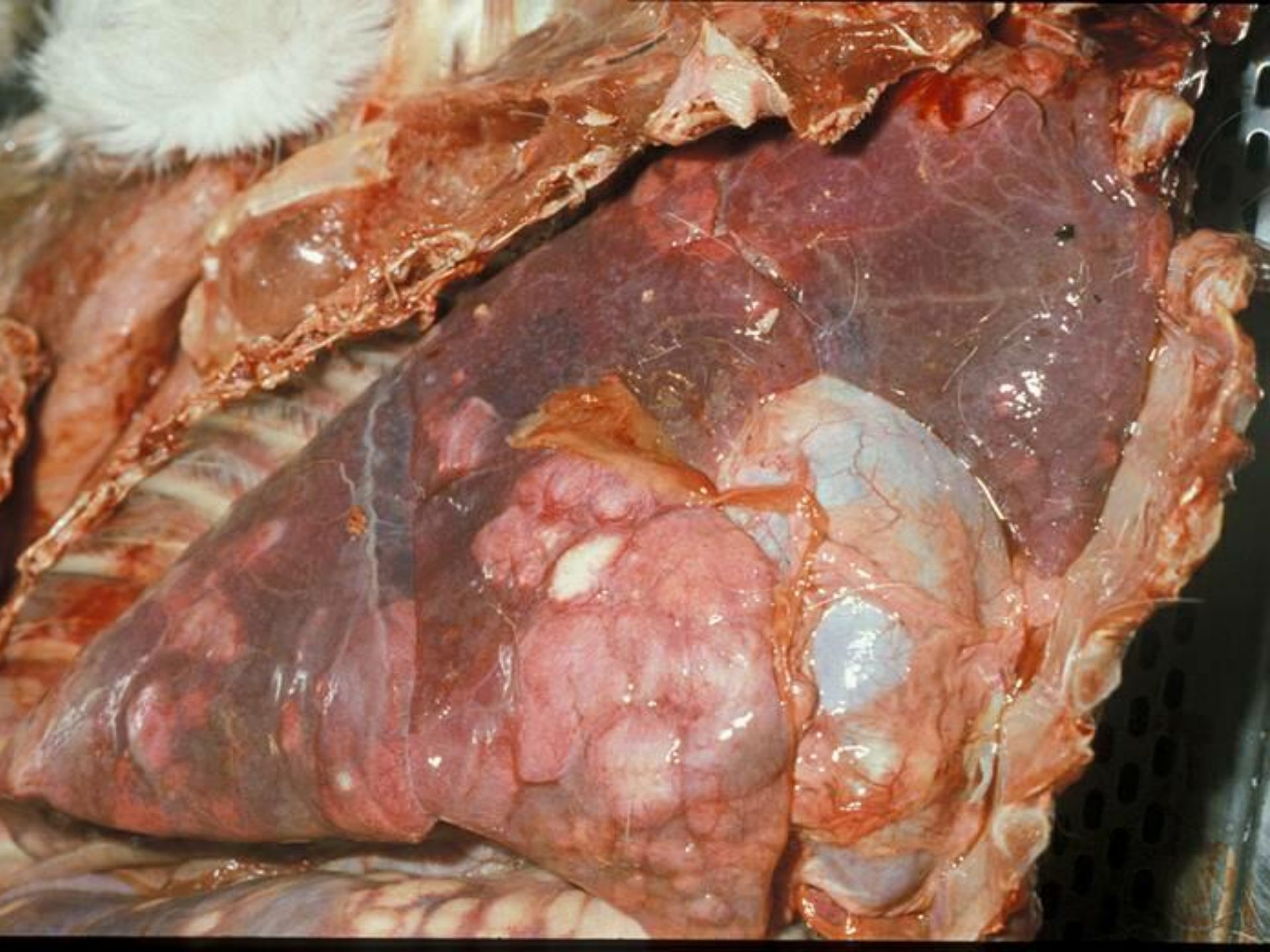

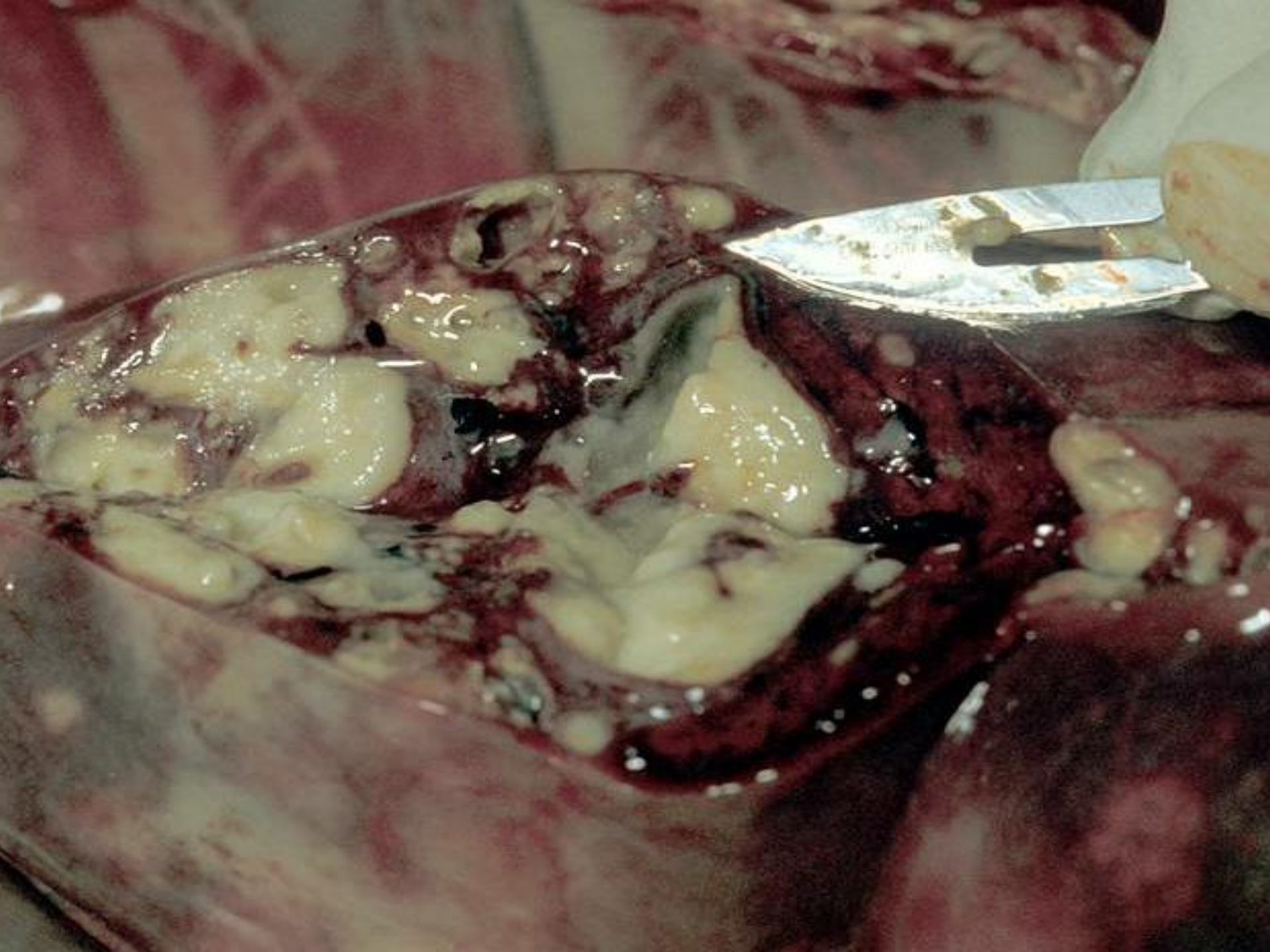

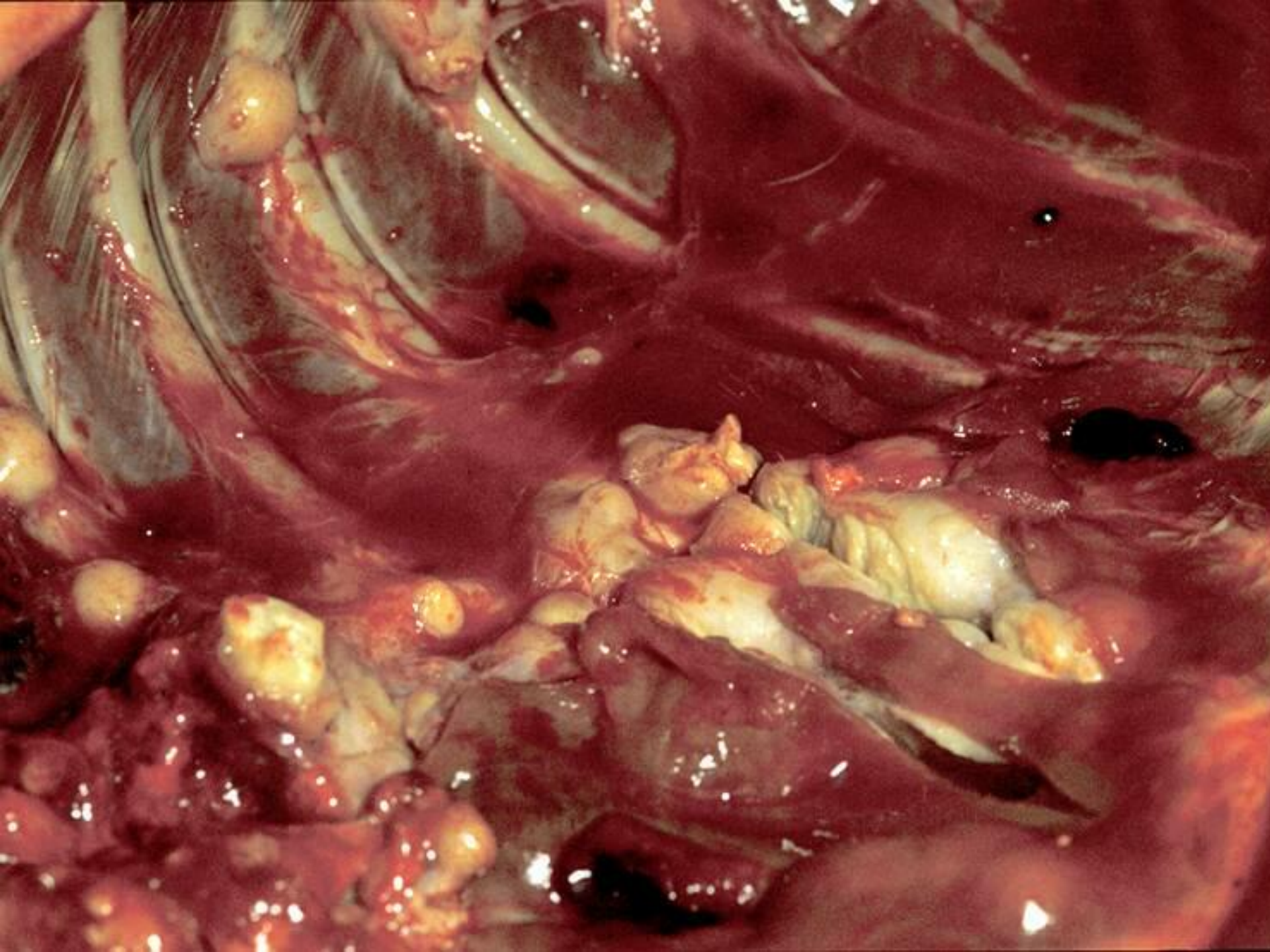

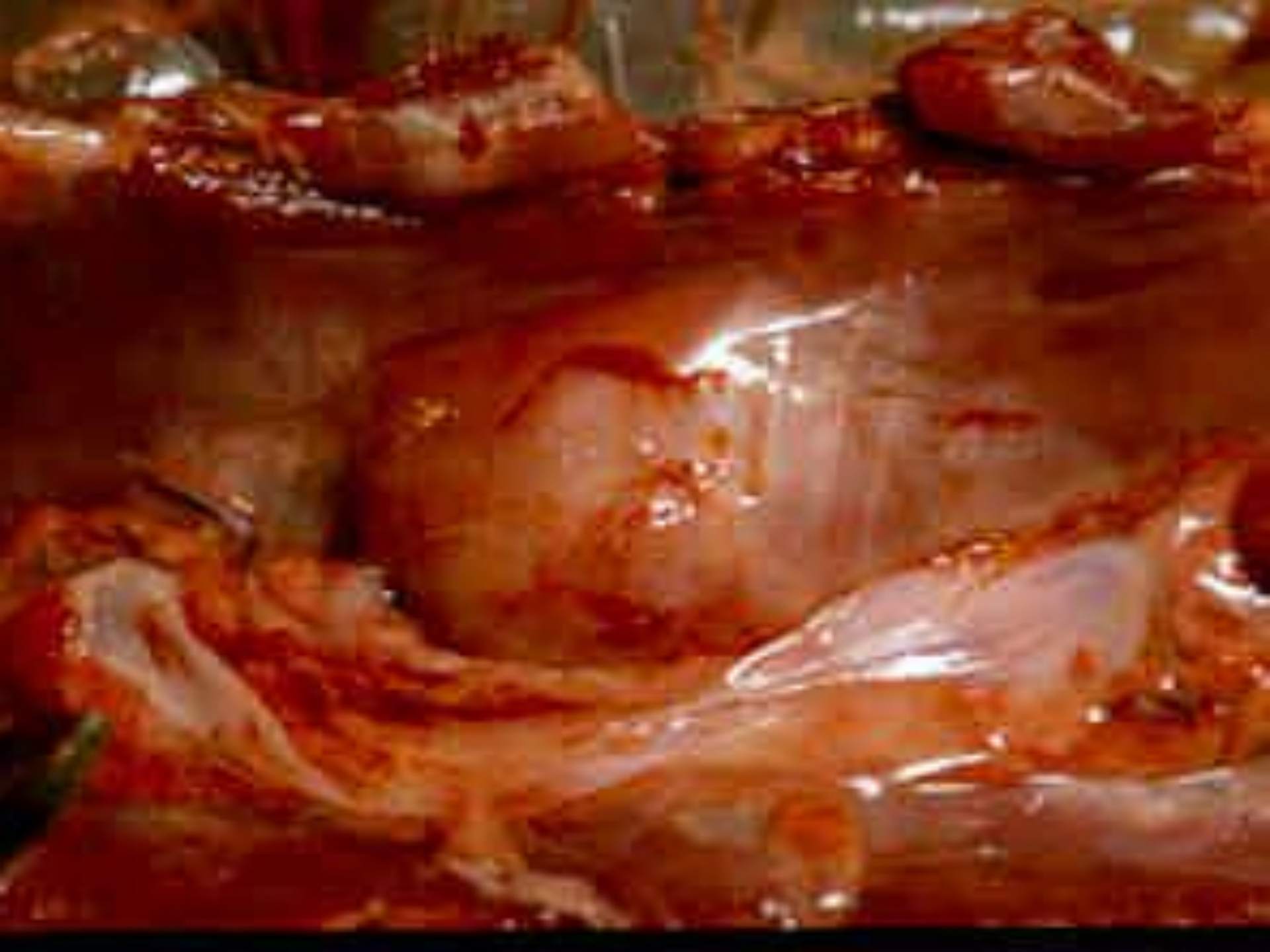

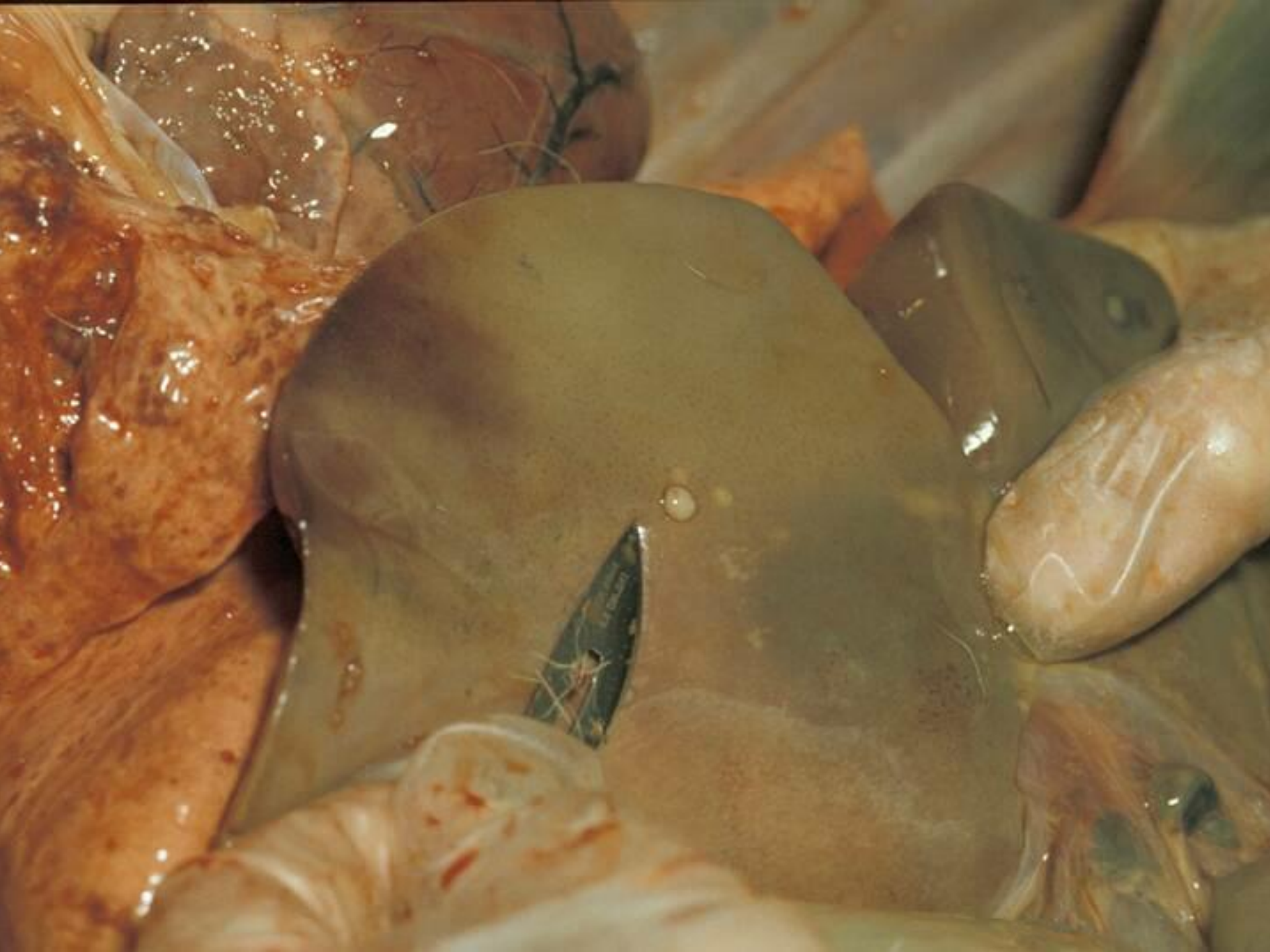

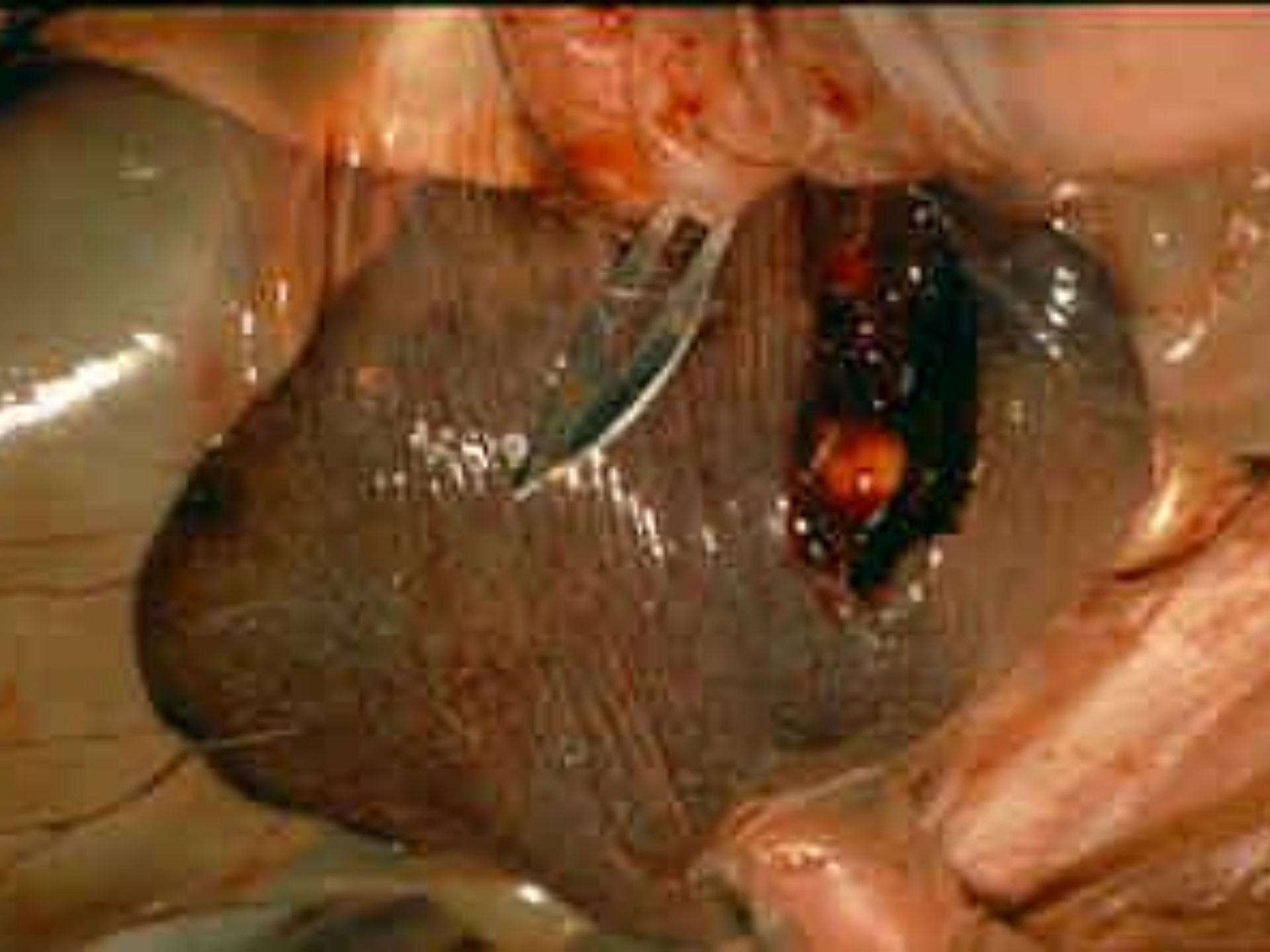


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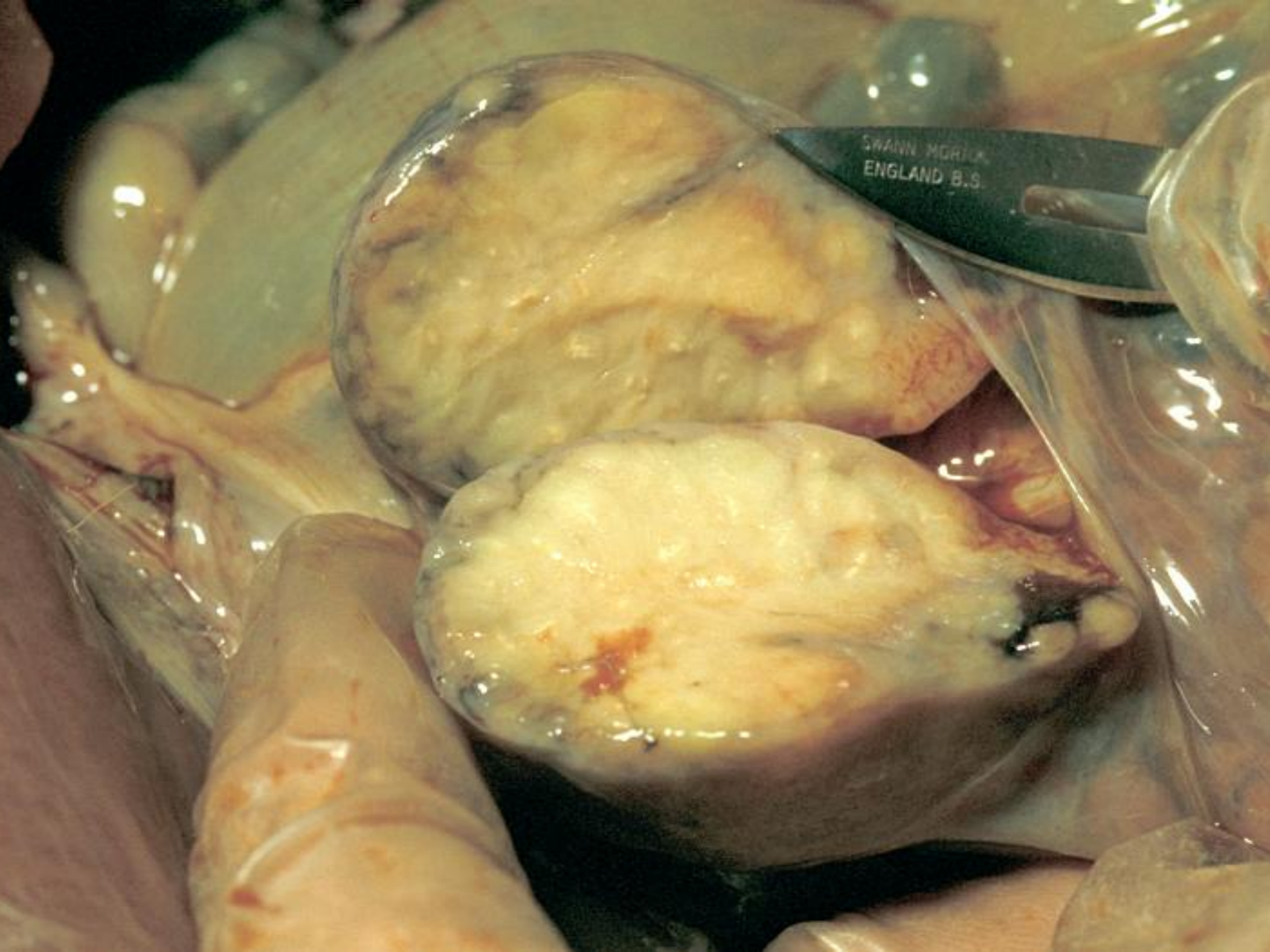
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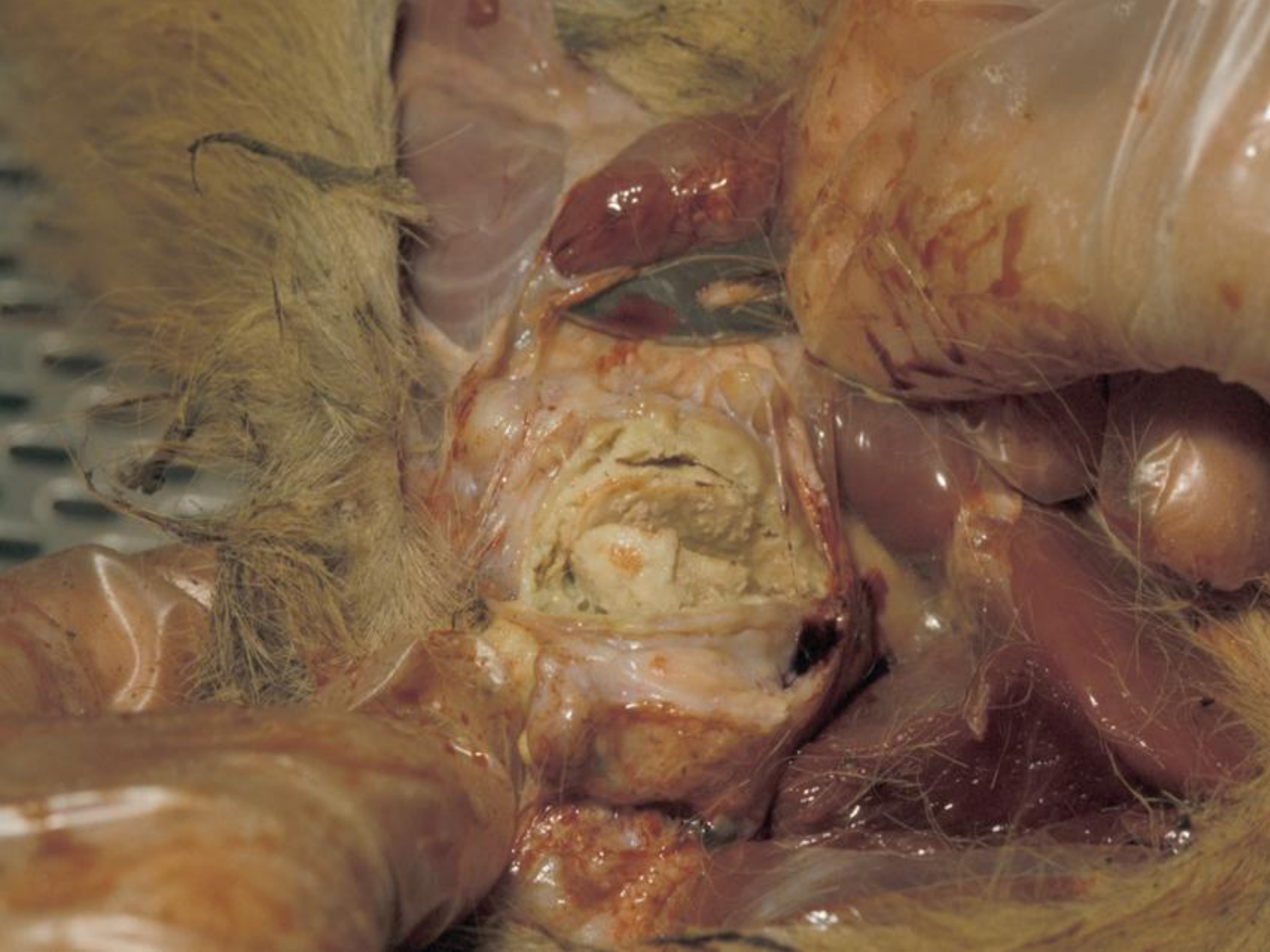

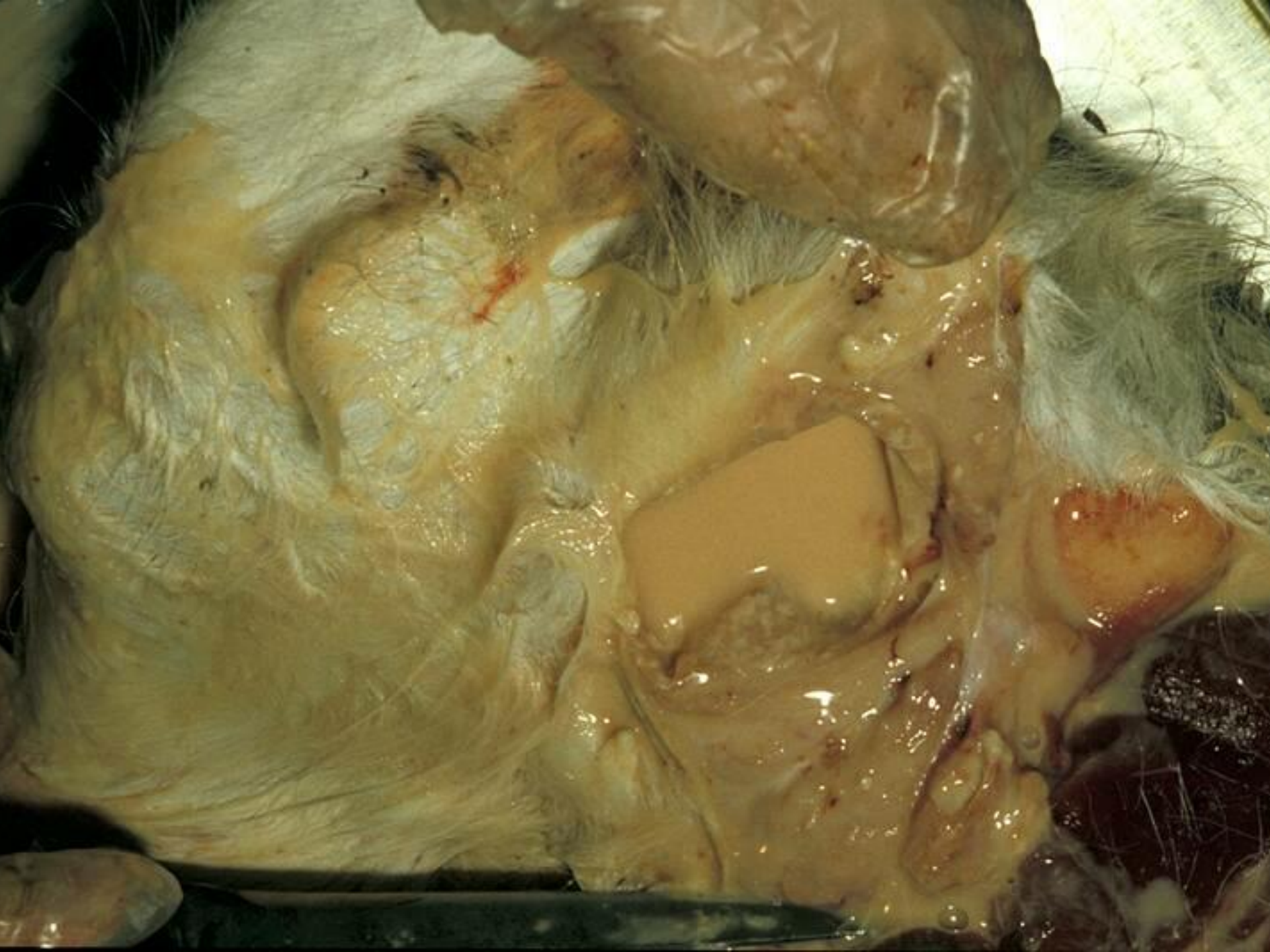

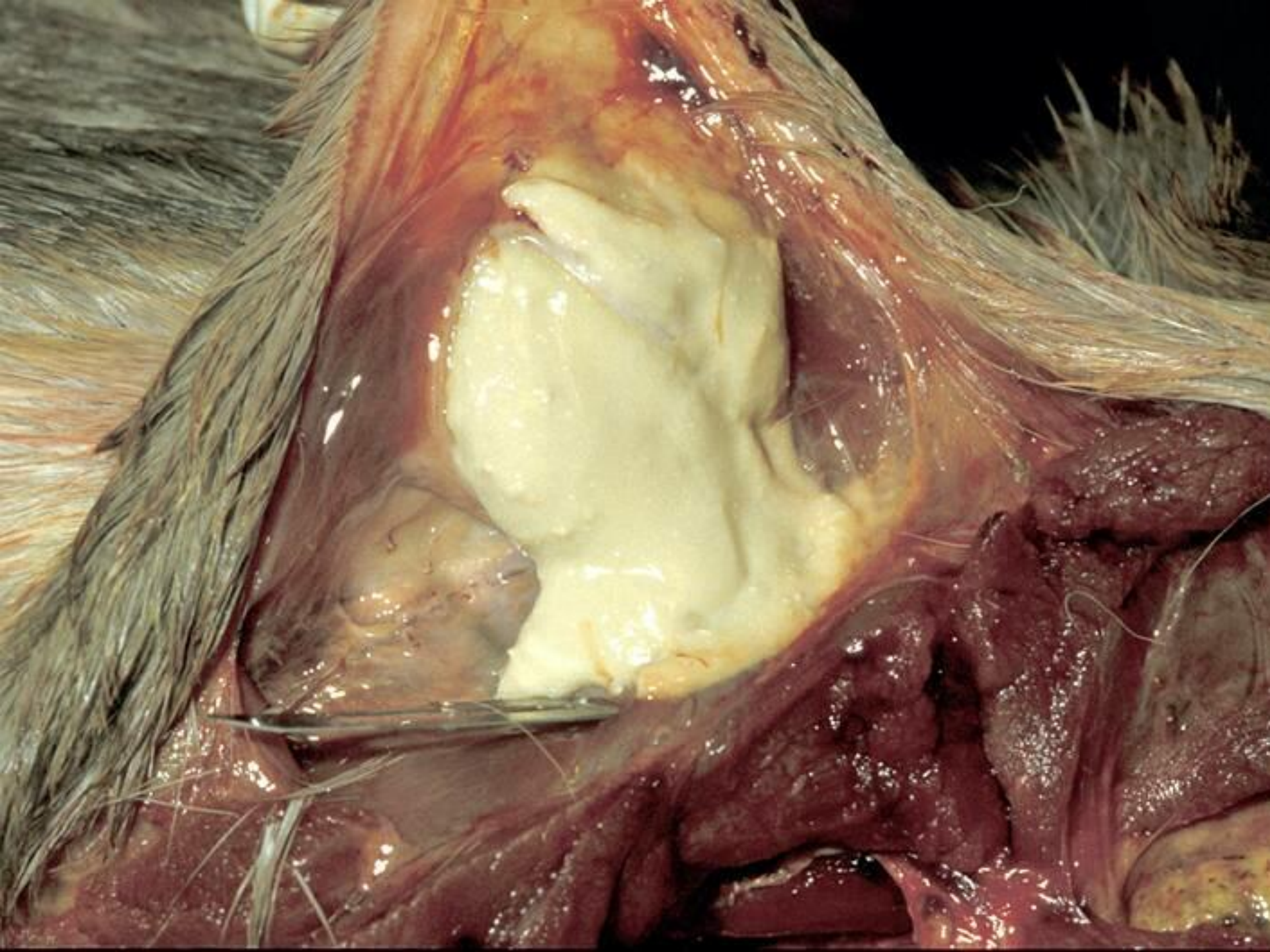

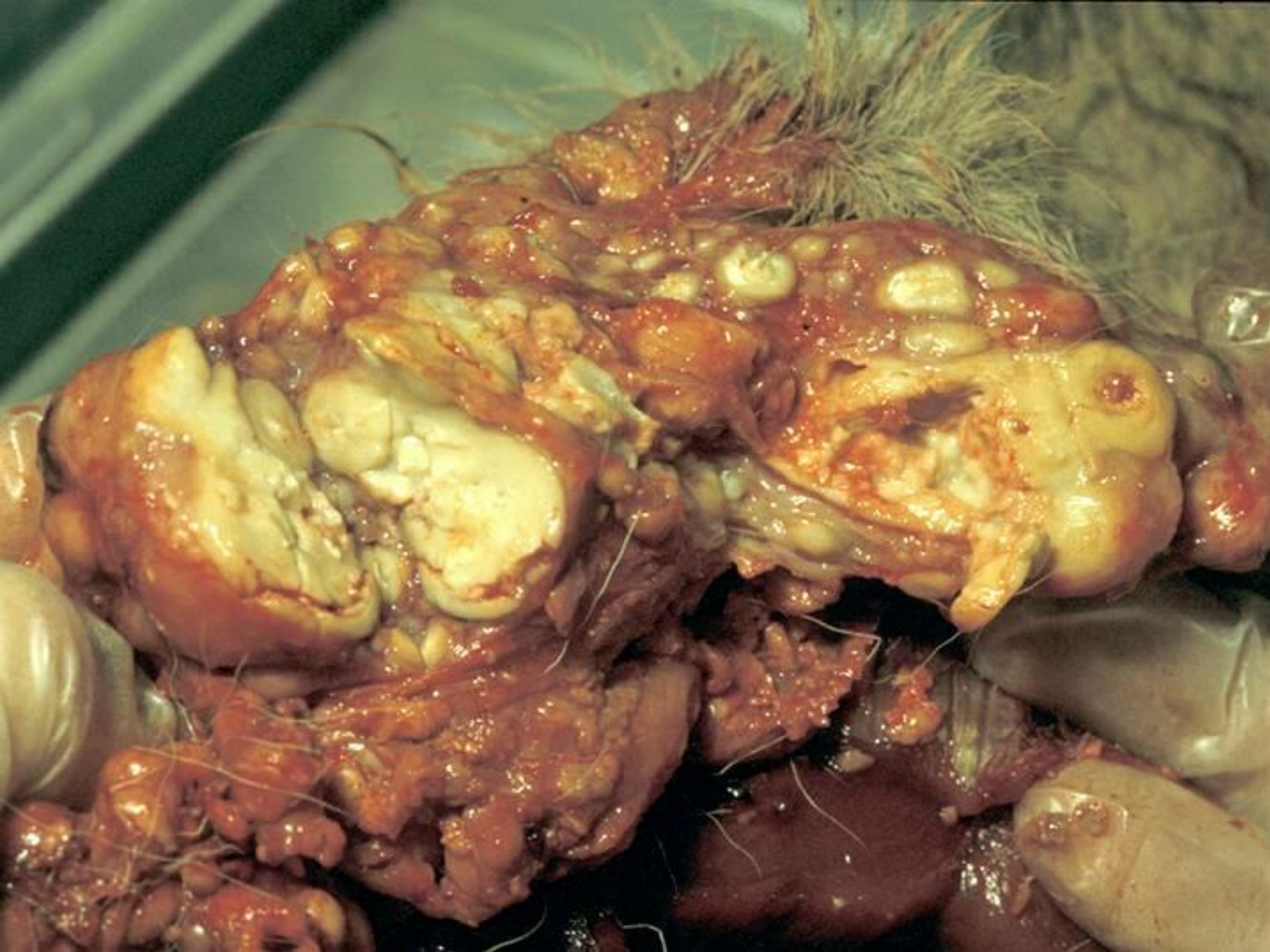

Gross Pathology:- Conclusions

Lesions

- Abscess; mineralised → purulent fluid
- Mainly LNs and Lungs
- Some very large
- Mammary infection
- Distribution → either Respiratory or Alimentary route of infection

Results from CSL/VLA wild mammal Project 2000-2003

				95% Confidence Interval	
Species	Total Collected	Total Culture Positive *M.bovis*	Prevalence	Min	Max
Roe deer	885	9	1.02	0.47	1.92
Red deer	196	2	1.02	0.12	3.64
Fallow deer	504	22	4.37	2.76	6.53
Muntjac	58	3	5.17	1.08	14.38

NUMBER OF SUSPECT CASES OF TB INVESTIGATED & BACTERIOLOGICALLY CONFIRMED BY VLA

(Reports of the CVO, DEFRA)

Year	Wild Deer	Farmed Deer	Park Deer	Total Confirmed (submissions from which *M bovis* was isolated)	Total Statutory Deer Submissions Investigated by VLA
1999	7	0	3	10	49
2000	6	1	2	9	39
2001	1	0	0	1	28
2002	3	8	2	13	54
2003	14	8	0	22	64
2004	42	0	2	44	88

January to December 2003

SPECIES		No. examined	No. +ve *M.bovis*	County
Fallow	Wild	3	3	Somerset, Gloucestershire, Herefordshire
Red	Farmed	20	8	Cumbria
		7	6	Somerset – 5, Devon - 1
Roe	Wild	31	4	Somerset – 3, Gloucestershire- 1
Muntjac		1	0	

January to December 2004

SPECIES		No. examined	No. +ve *M.bovis*	County
Fallow	wild	19	14	Gloucester - 9, Herefordshire - 4, Monmouth – 1
Red	Wild	36	28	Somerset - 26, Cheshire – 1, Scotland - 1
	Farmed	11	0	
Roe	Wild	32	2	Gloucester

January to September 2005

SPECIES		No. examined	No. +ve *M.bovis*	County
Fallow	Wild	9	5	Gloucester - 1, Herefordshire -3, Shropshire - 1
	Park	1	1	Cumbria
Red	Wild	22	16	Somerset - 14, Devon - 2
	Farmed	9	0	
	Park	1	0	
Roe	Wild	36	2	Somerset – 1, Gloucestershire- 1
	Park	1	0	
Muntjac, Sika, N/K		3	0	

Survey Conclusions

- Varying prevalence of bTB in different species of deer
- bTB Hot spots for Red and Fallow deer
- Different species susceptibility?

Discussion:- Role of Deer

- Maintenance host ?
- Spillover host?
- Vector?

Further work

- VLA – Histopathology of VL and NVL/*M.bovis* +ve cases

- ? Further targeted surveys, eg Exmoor (Red deer), Gloucestershire(Fallow deer)

Overall Conclusions

- Deer species susceptible to bTB
- ? Some species more susceptible than others
- Nasal/Oral routes of infection
- ? Maintenance host under certain conditions
- Possible vector to cattle and other species

Acknowledgements and thanks:-

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