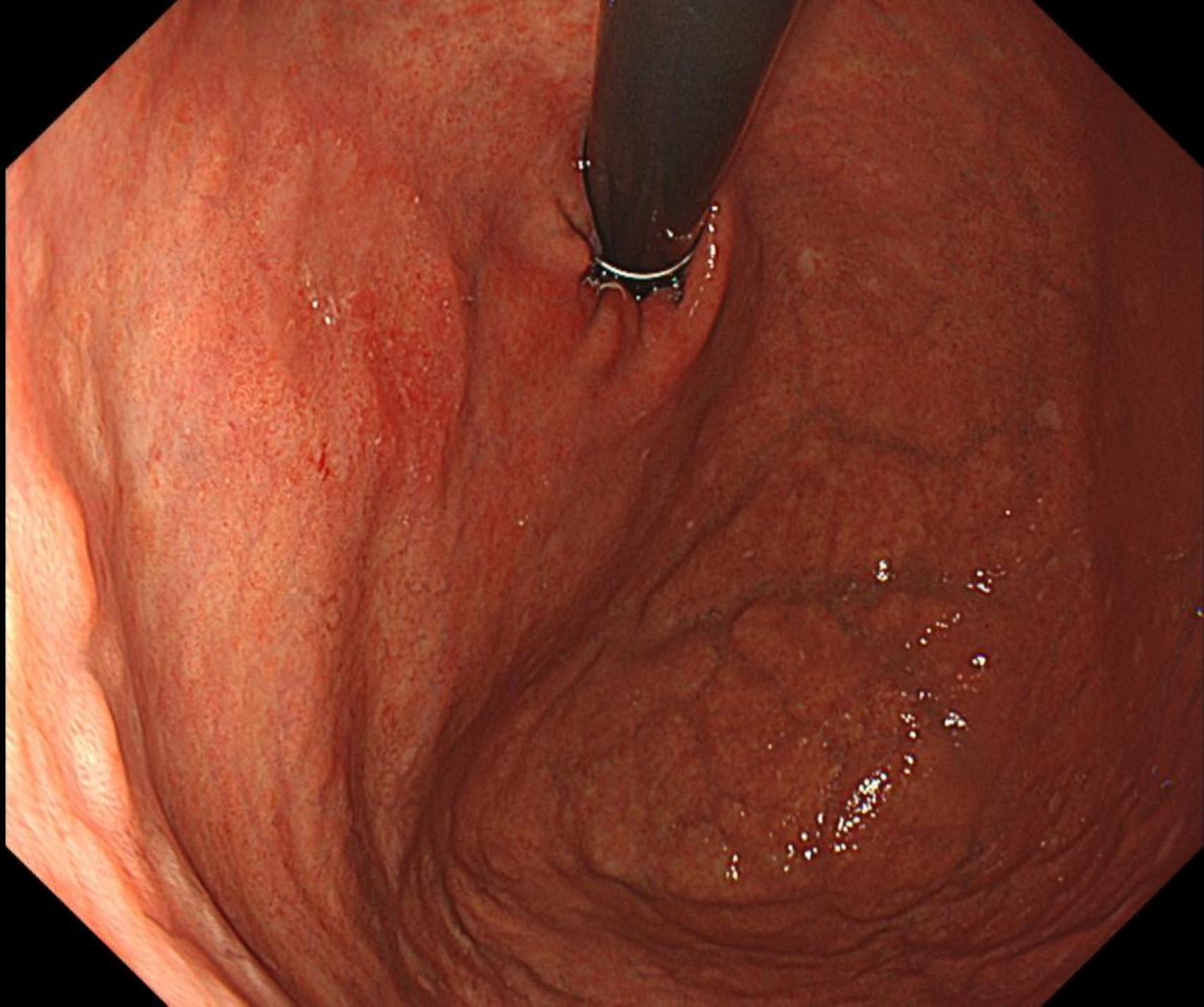
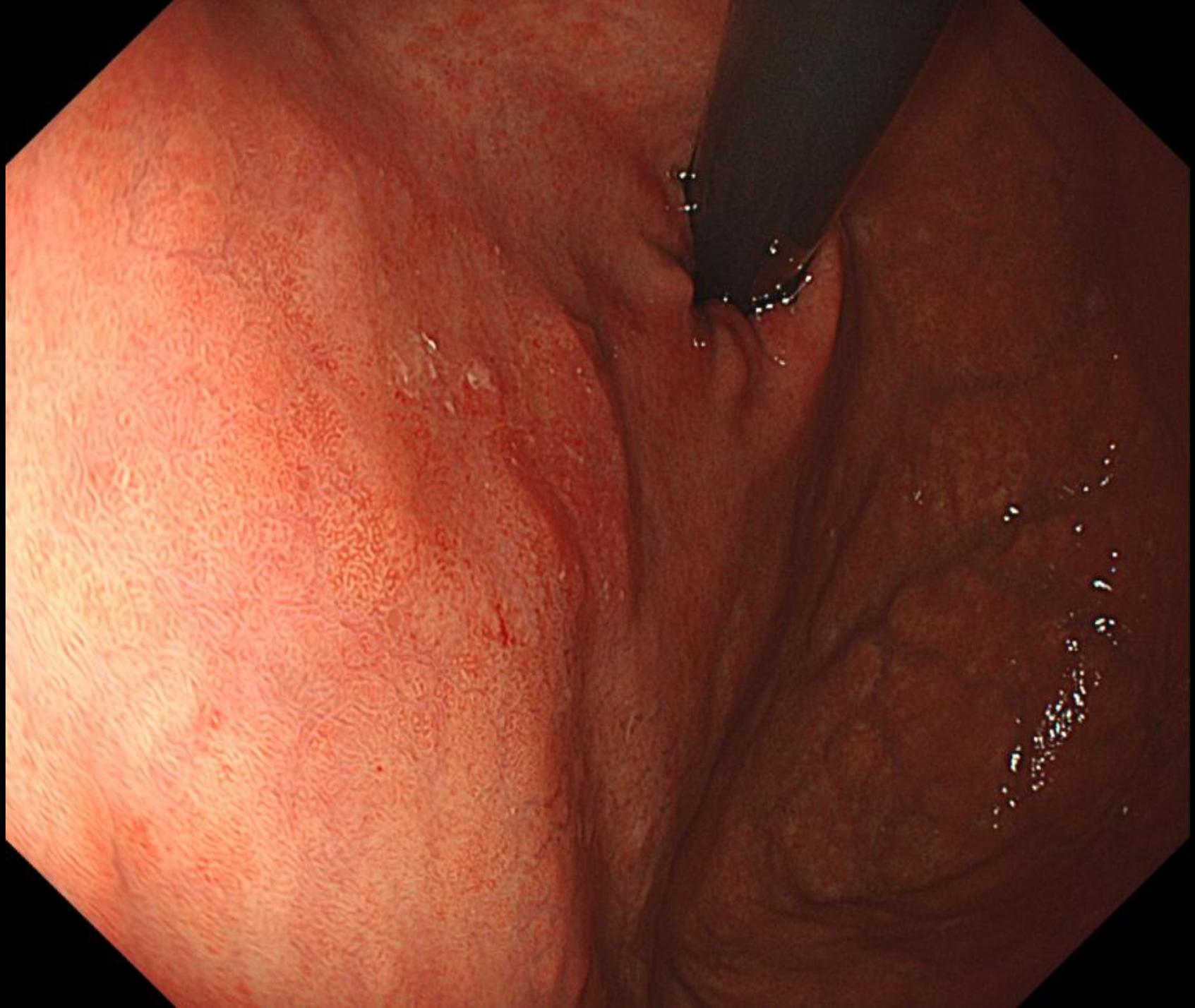


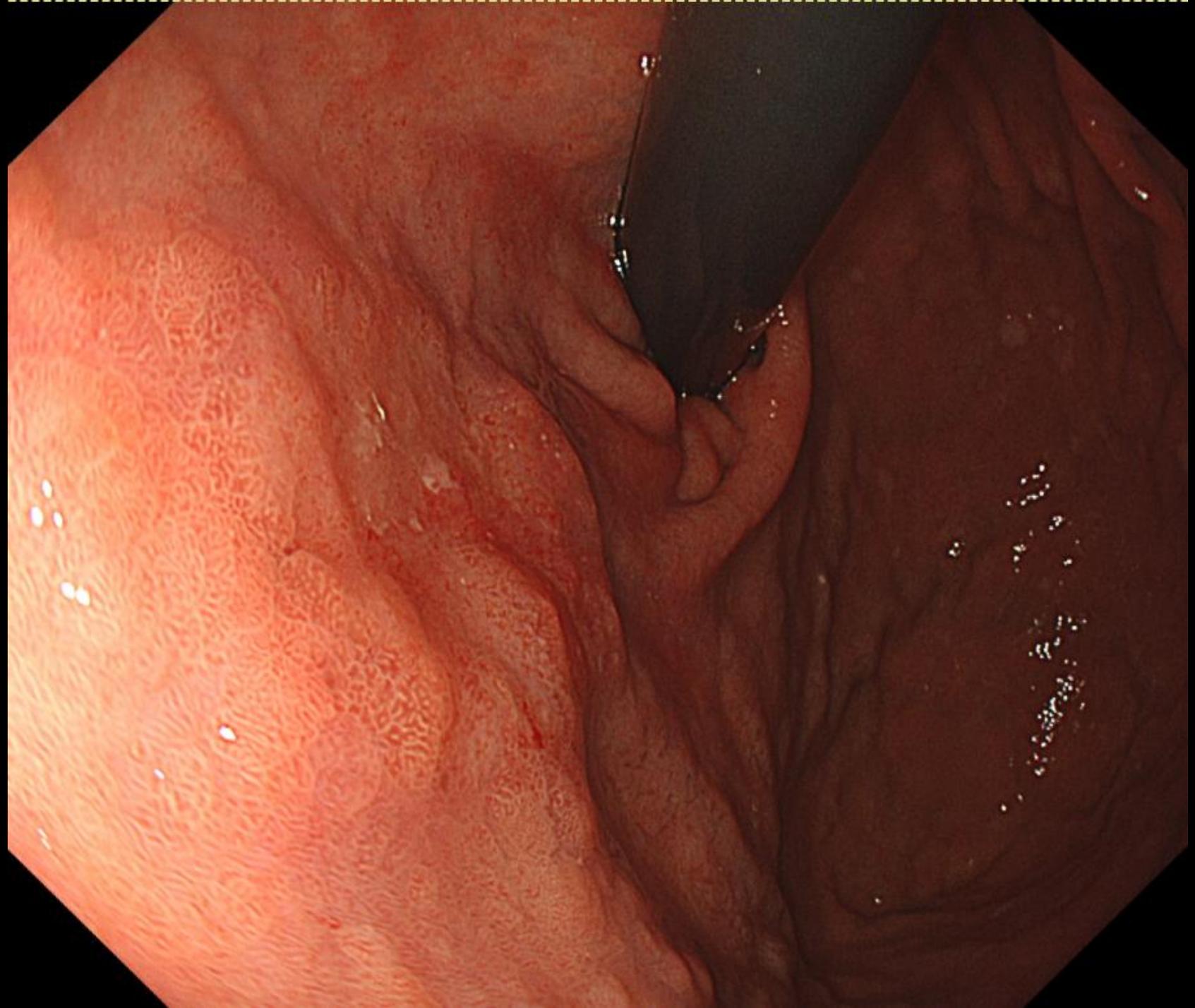
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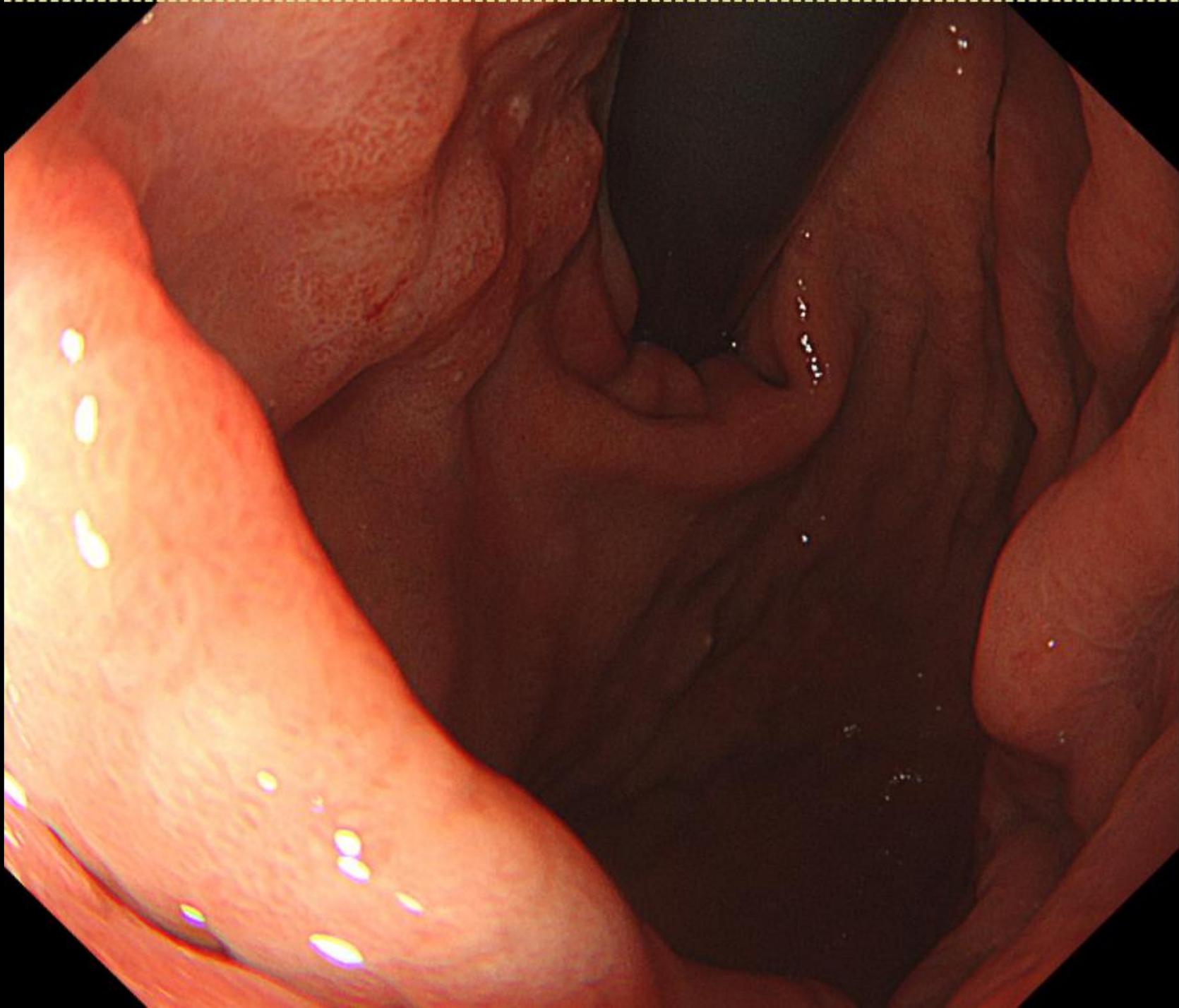
胃

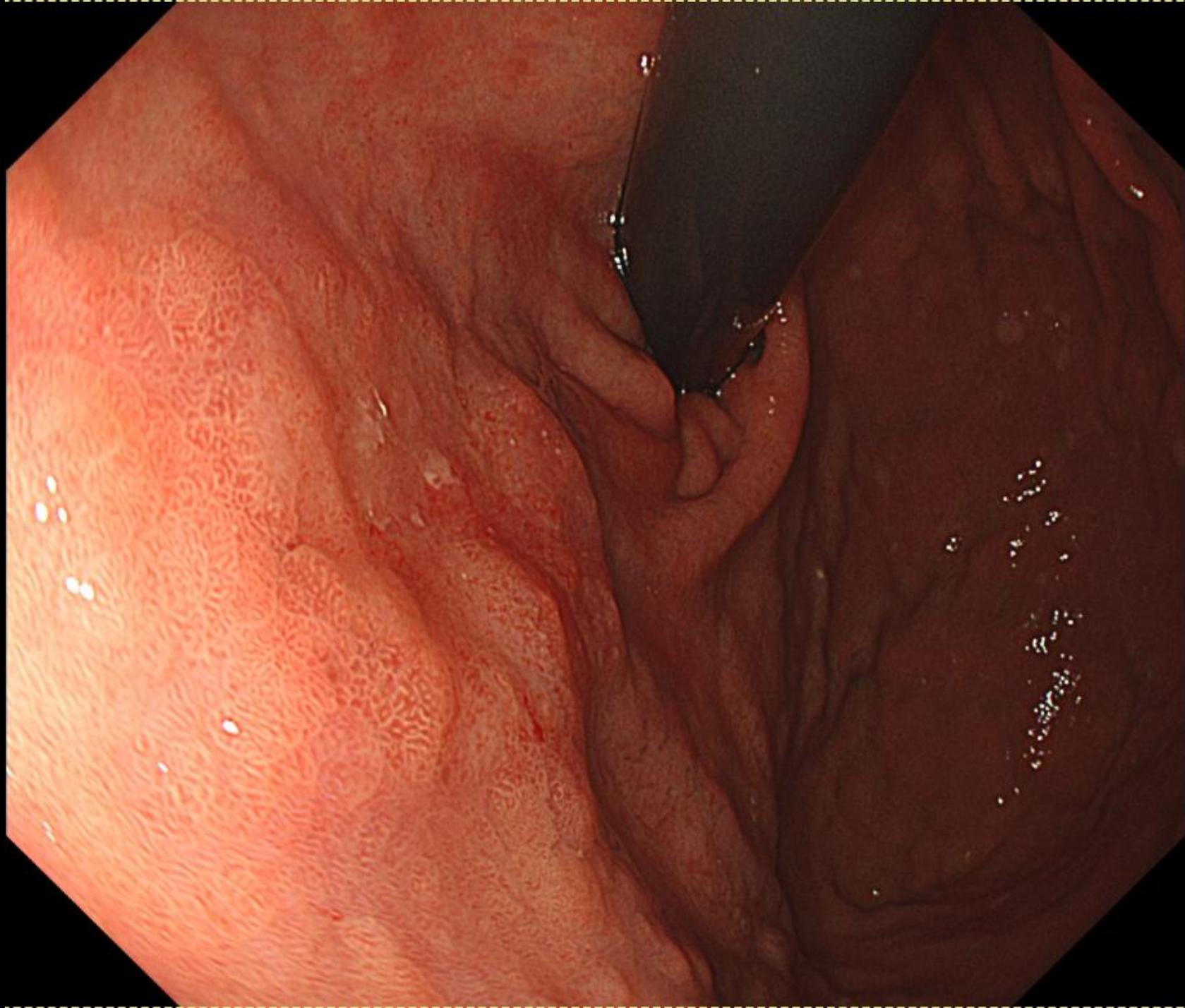
白色光
(5枚)



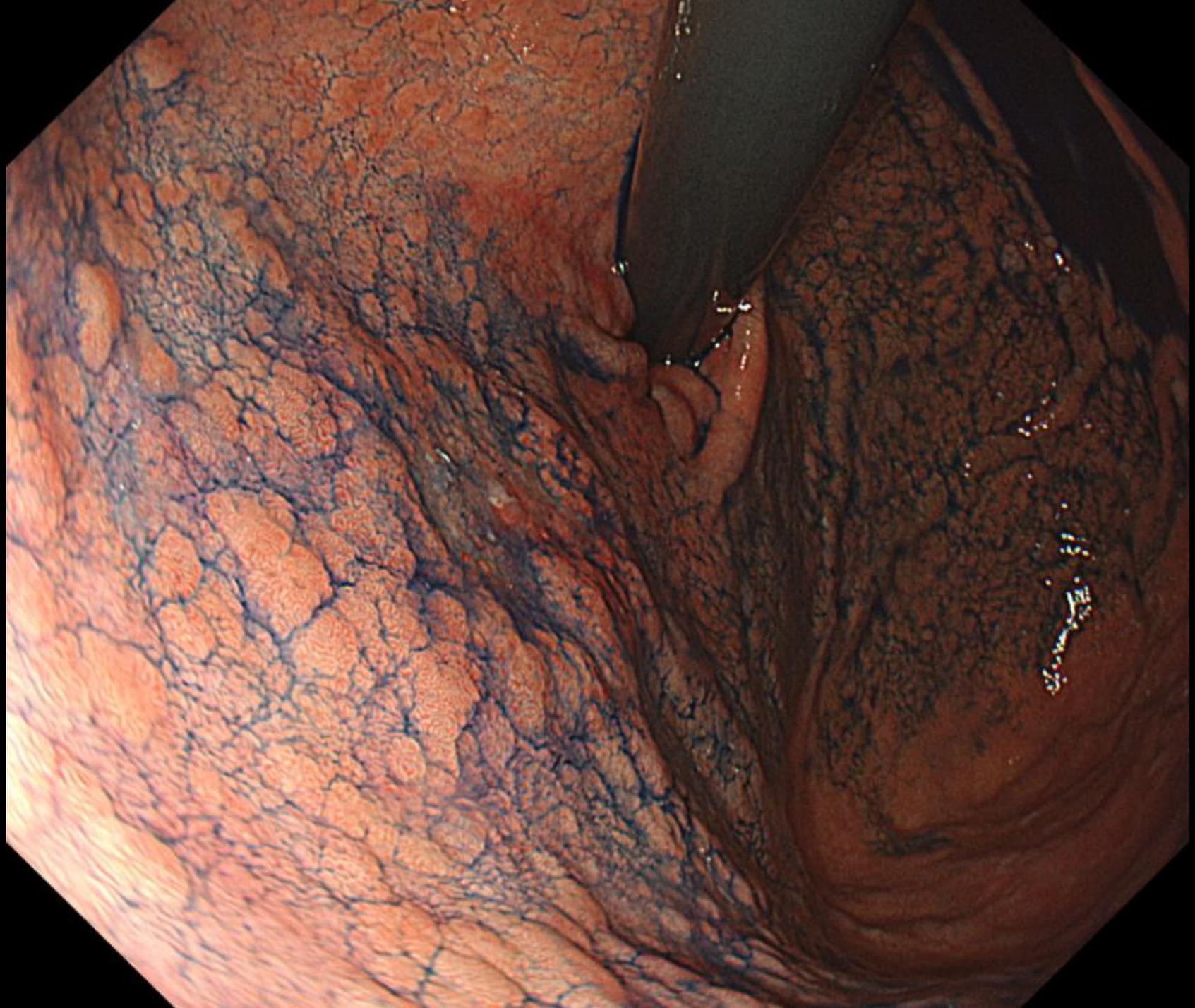




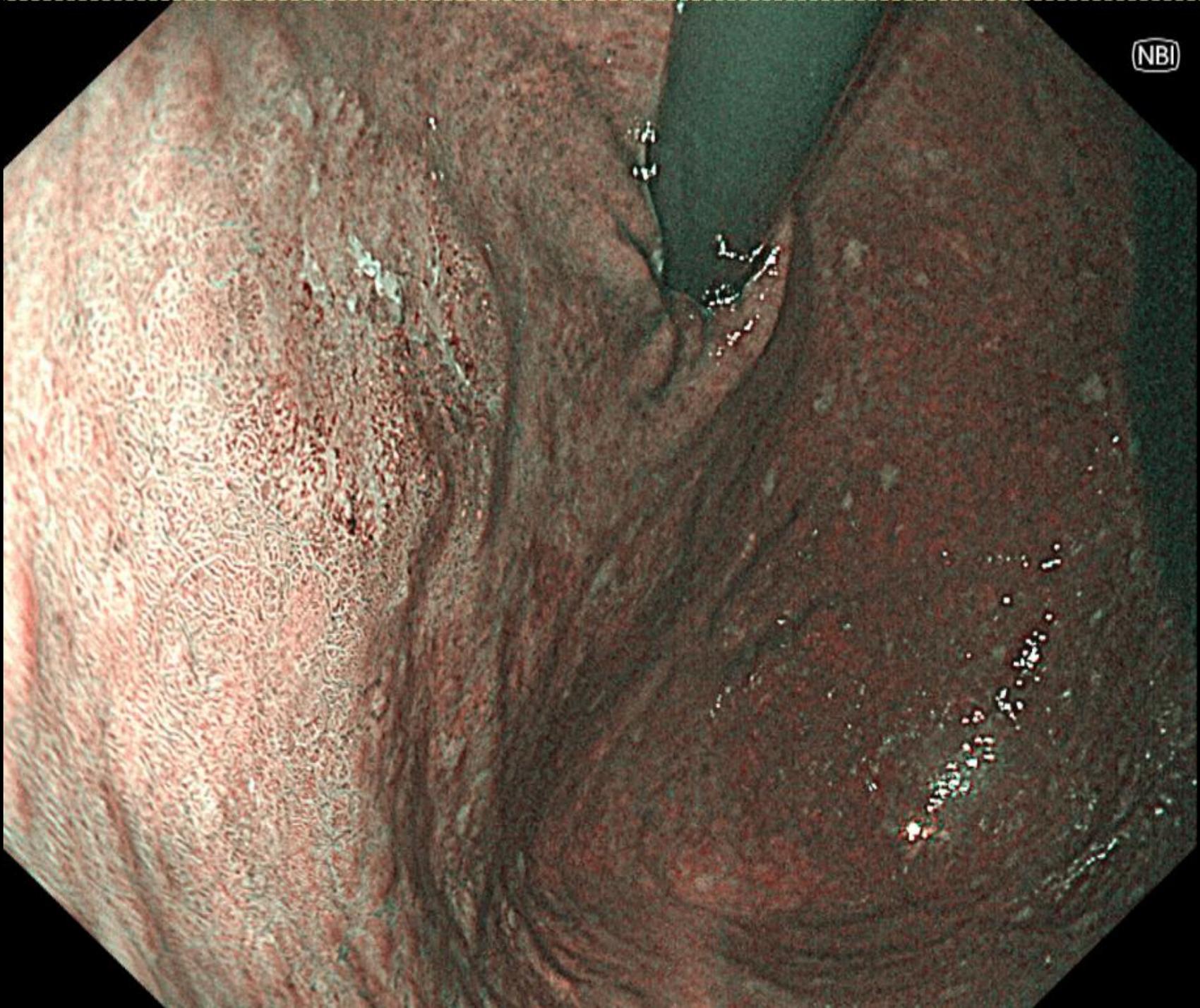


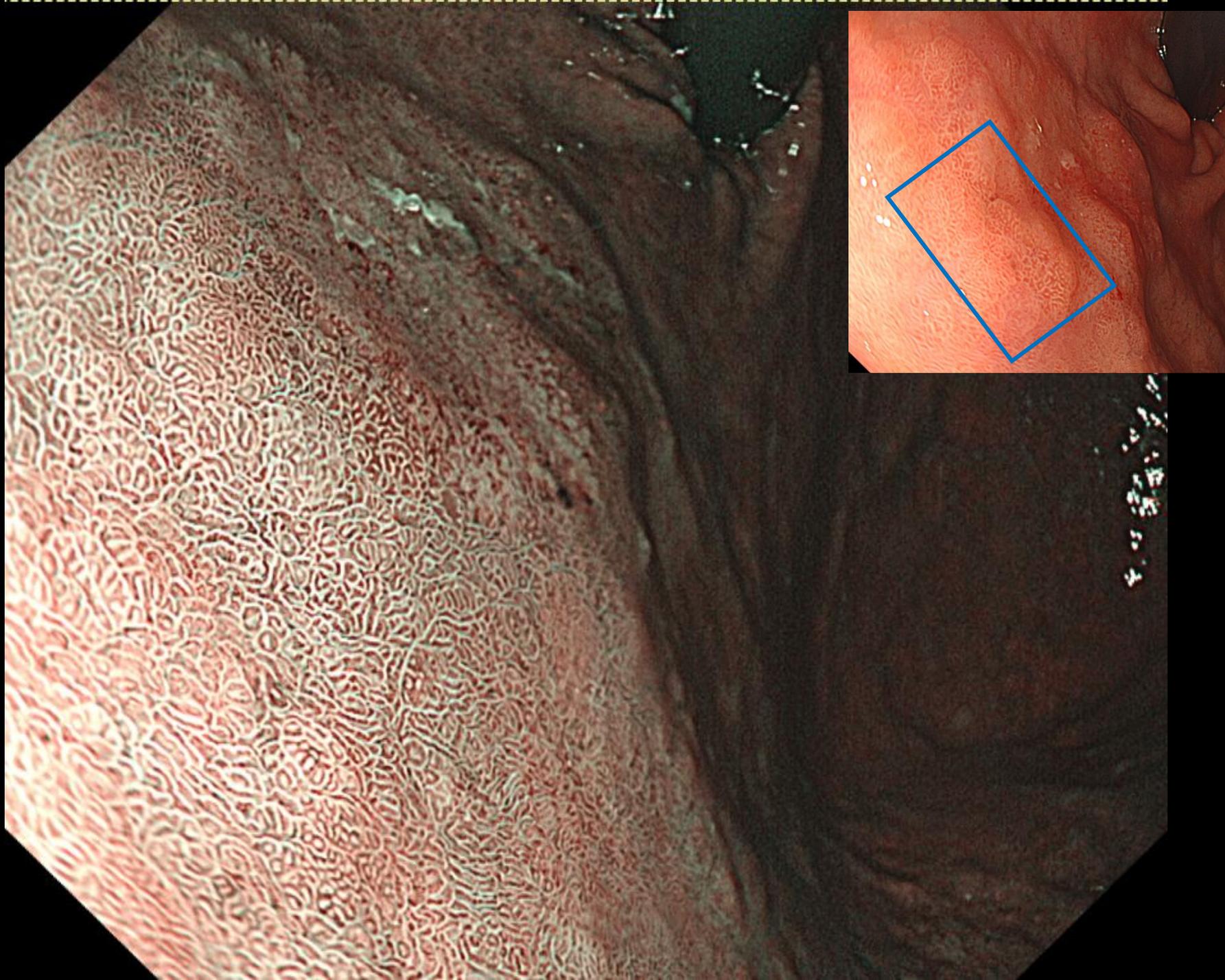


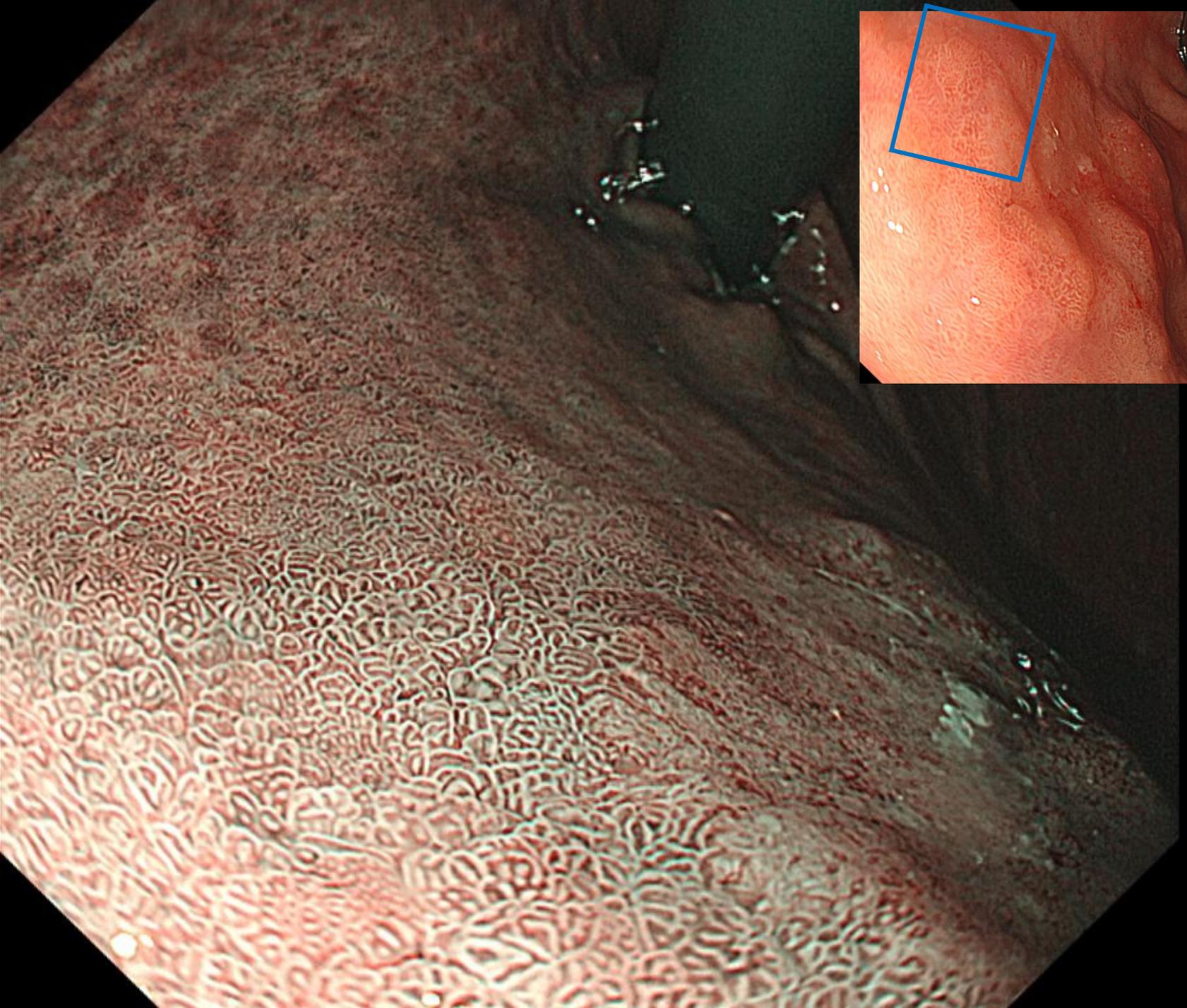
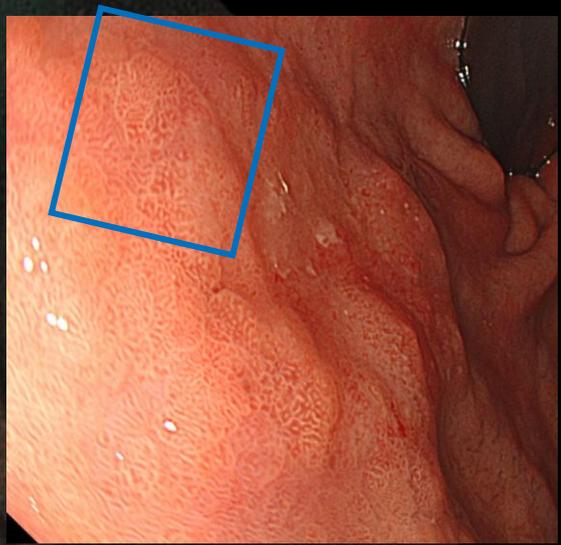
インジゴカルミン散布

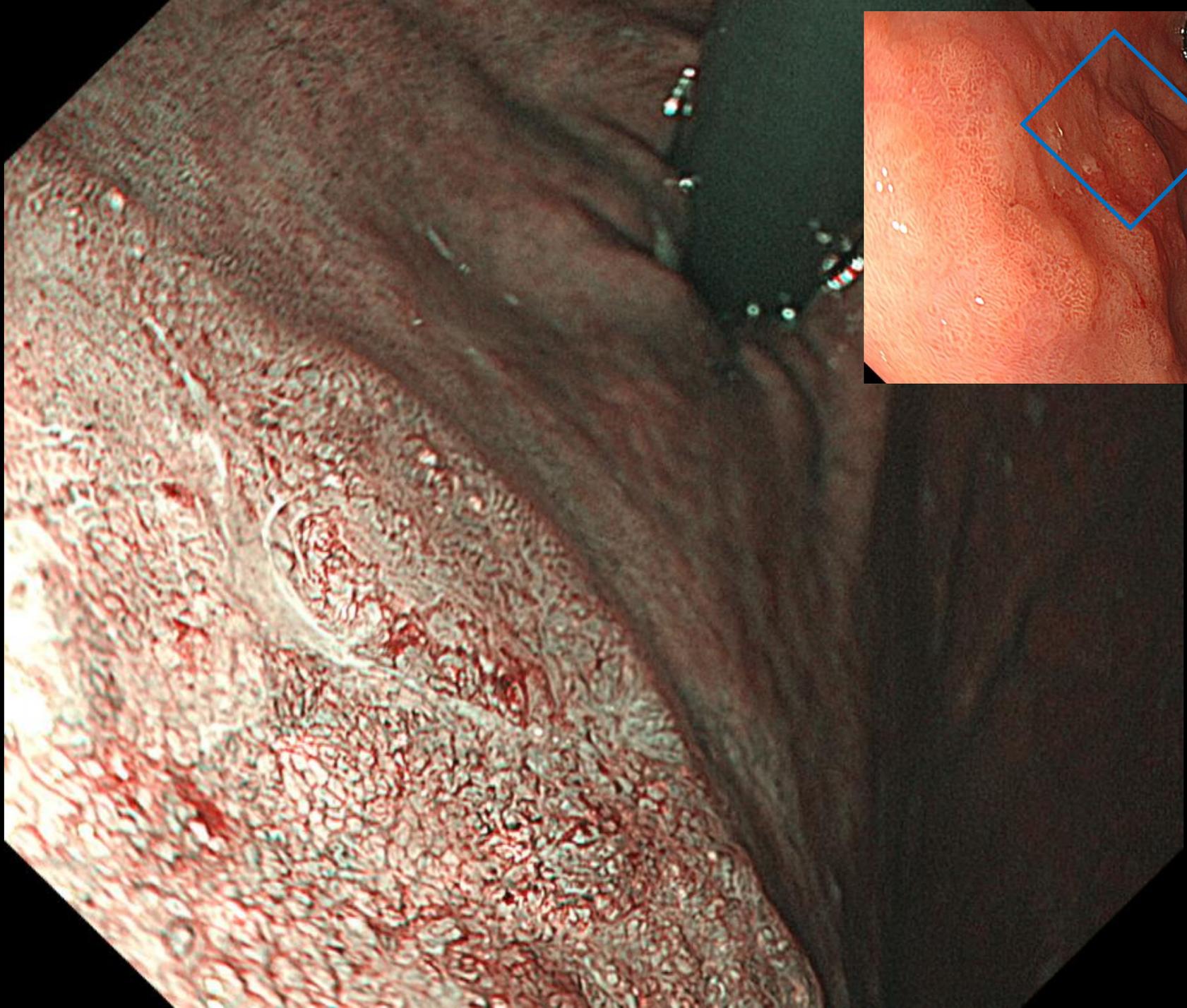
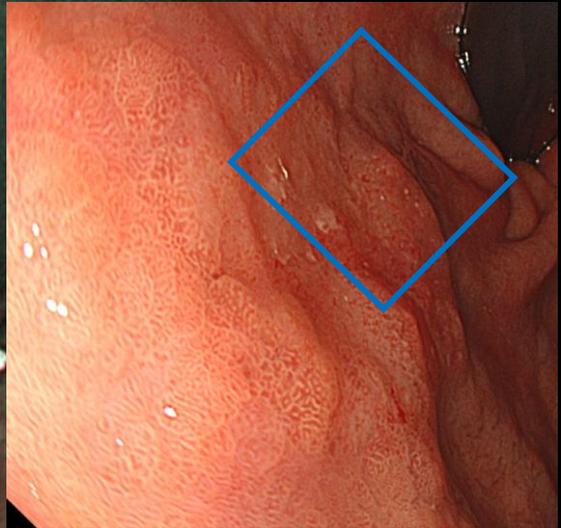


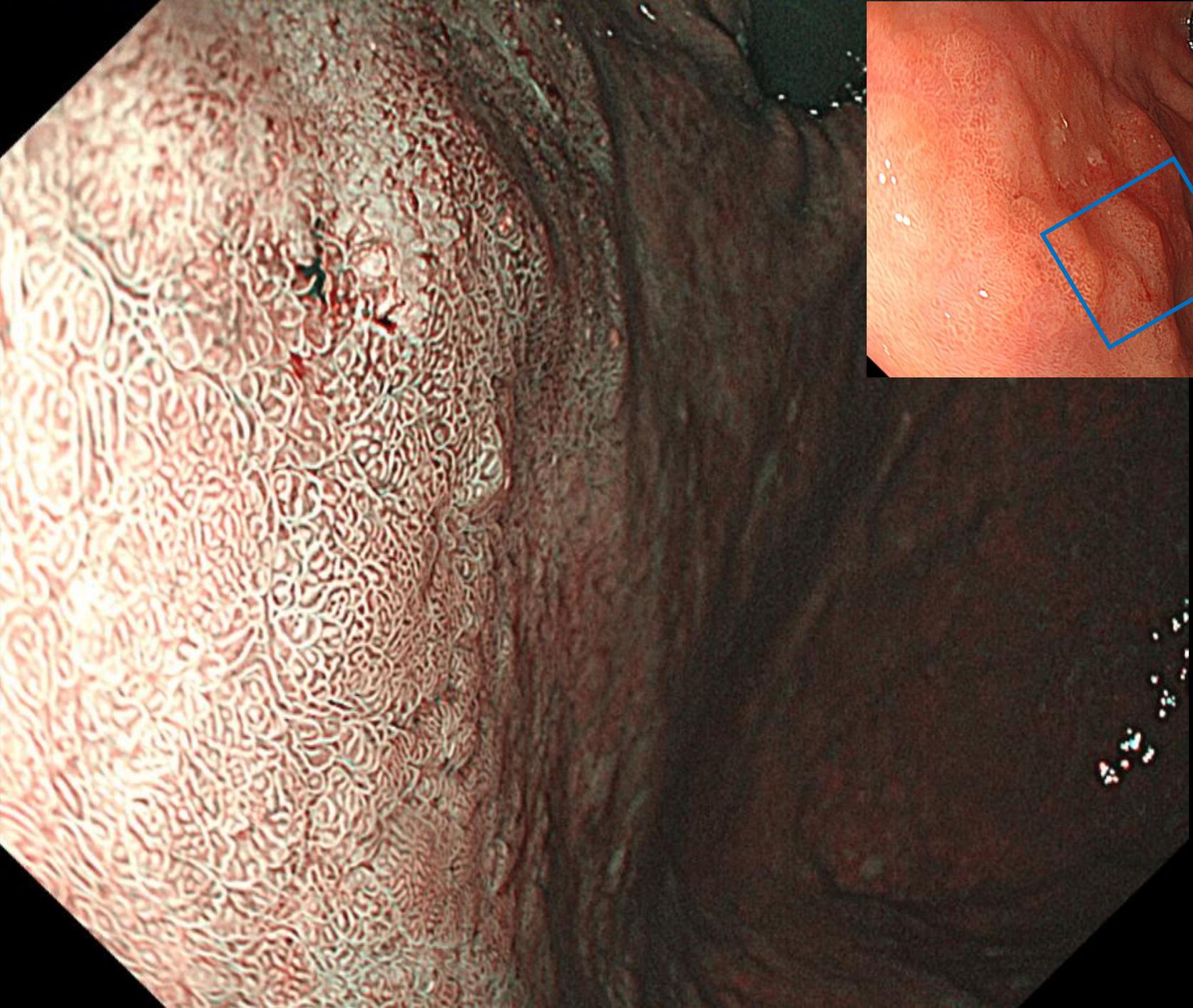
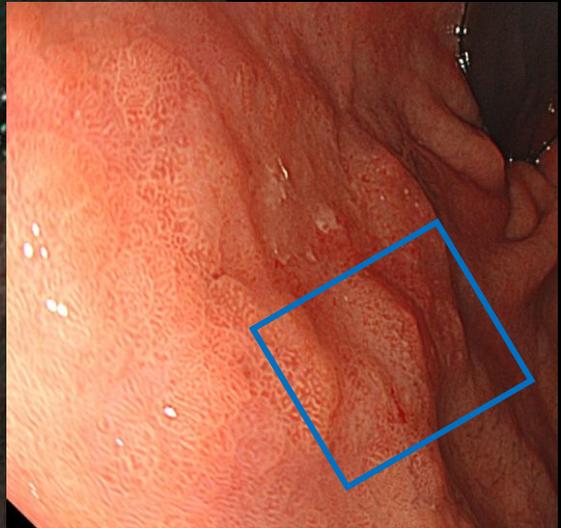
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(10枚)

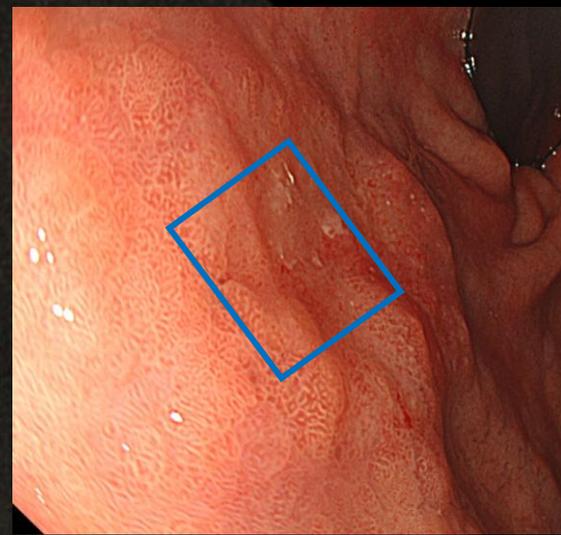
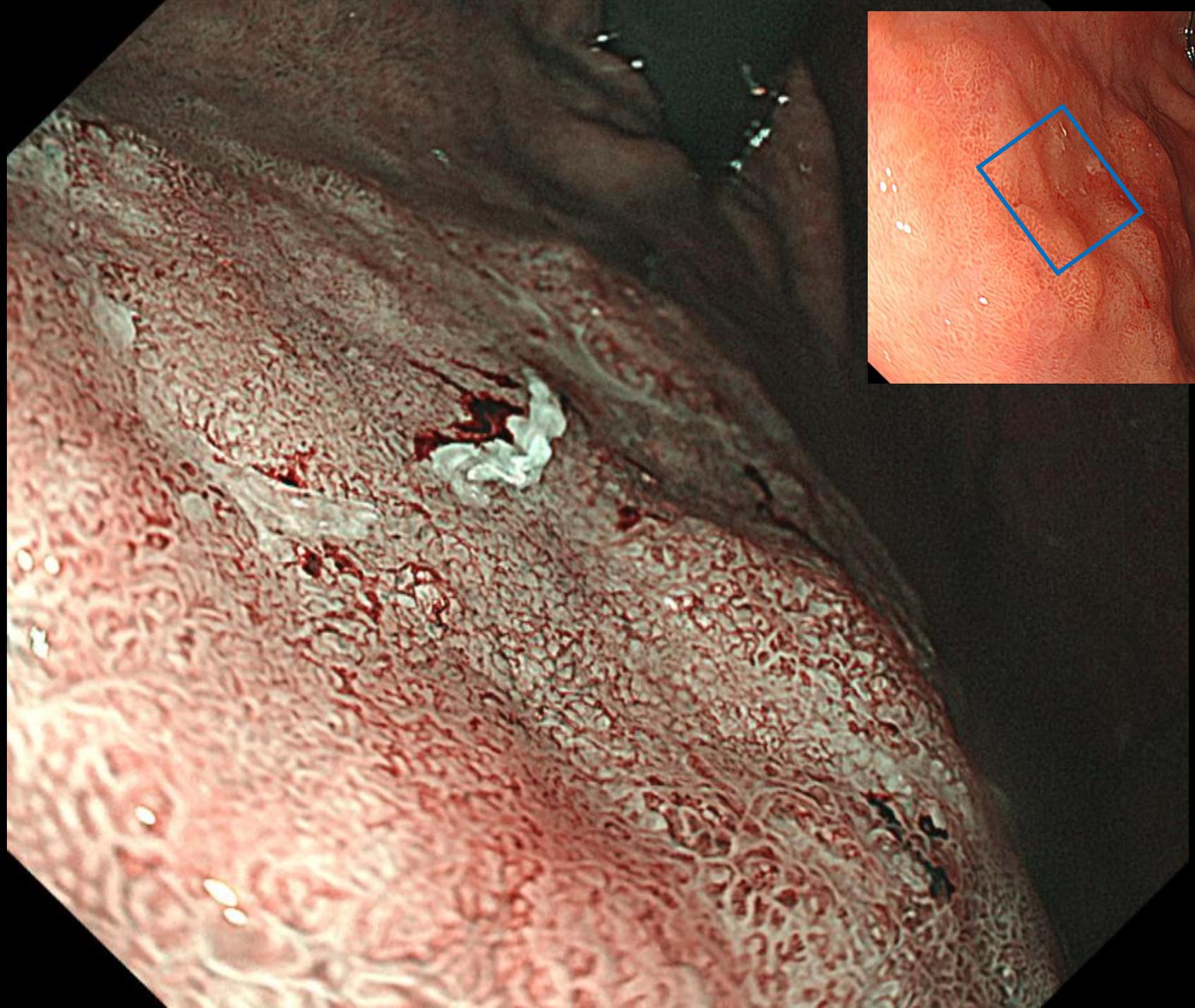


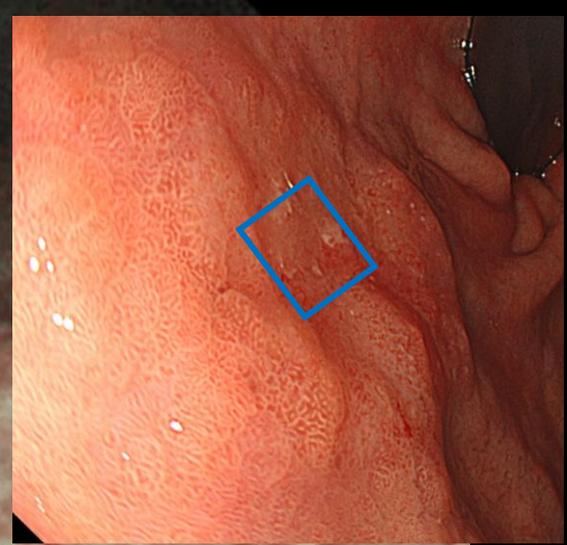
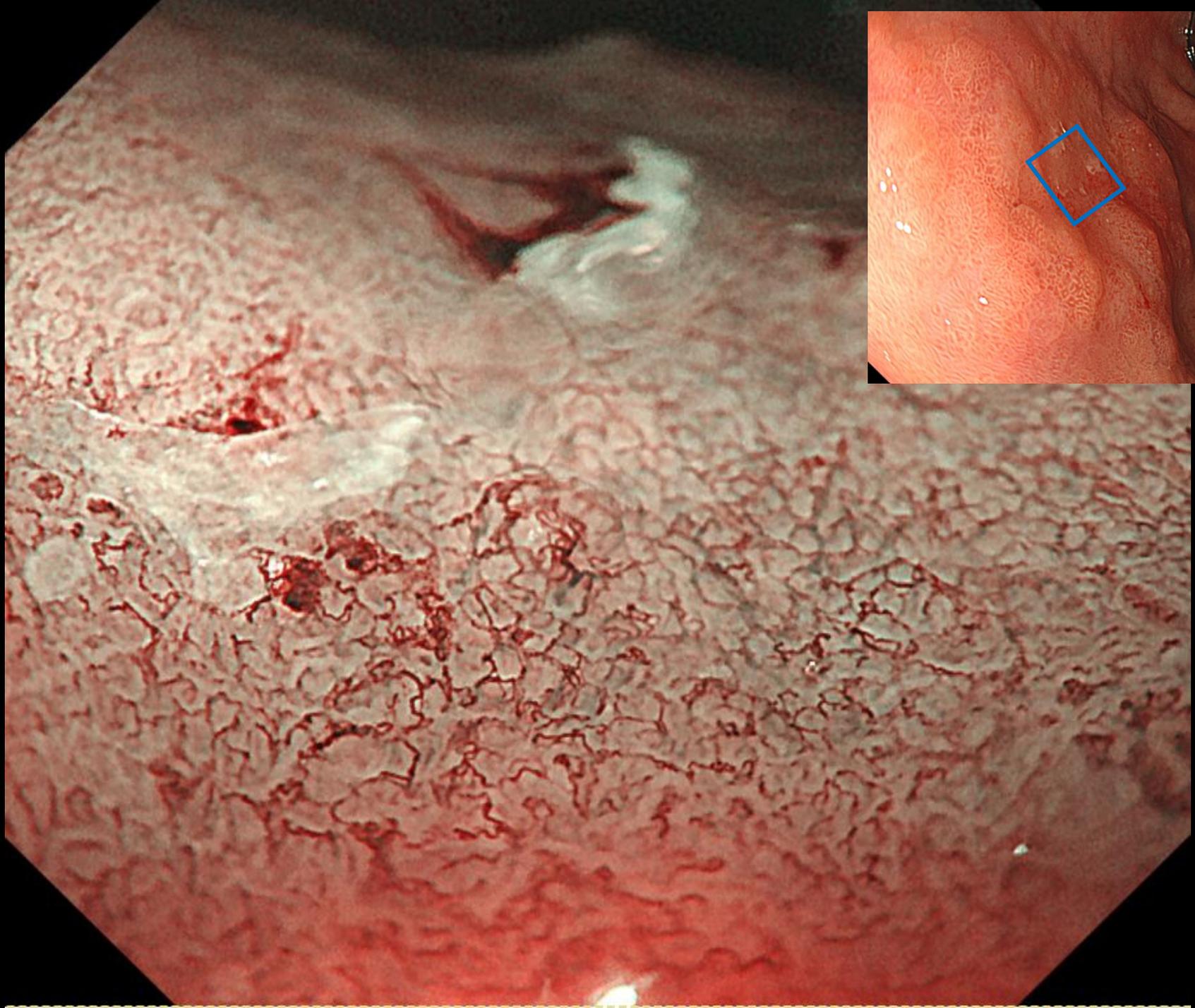


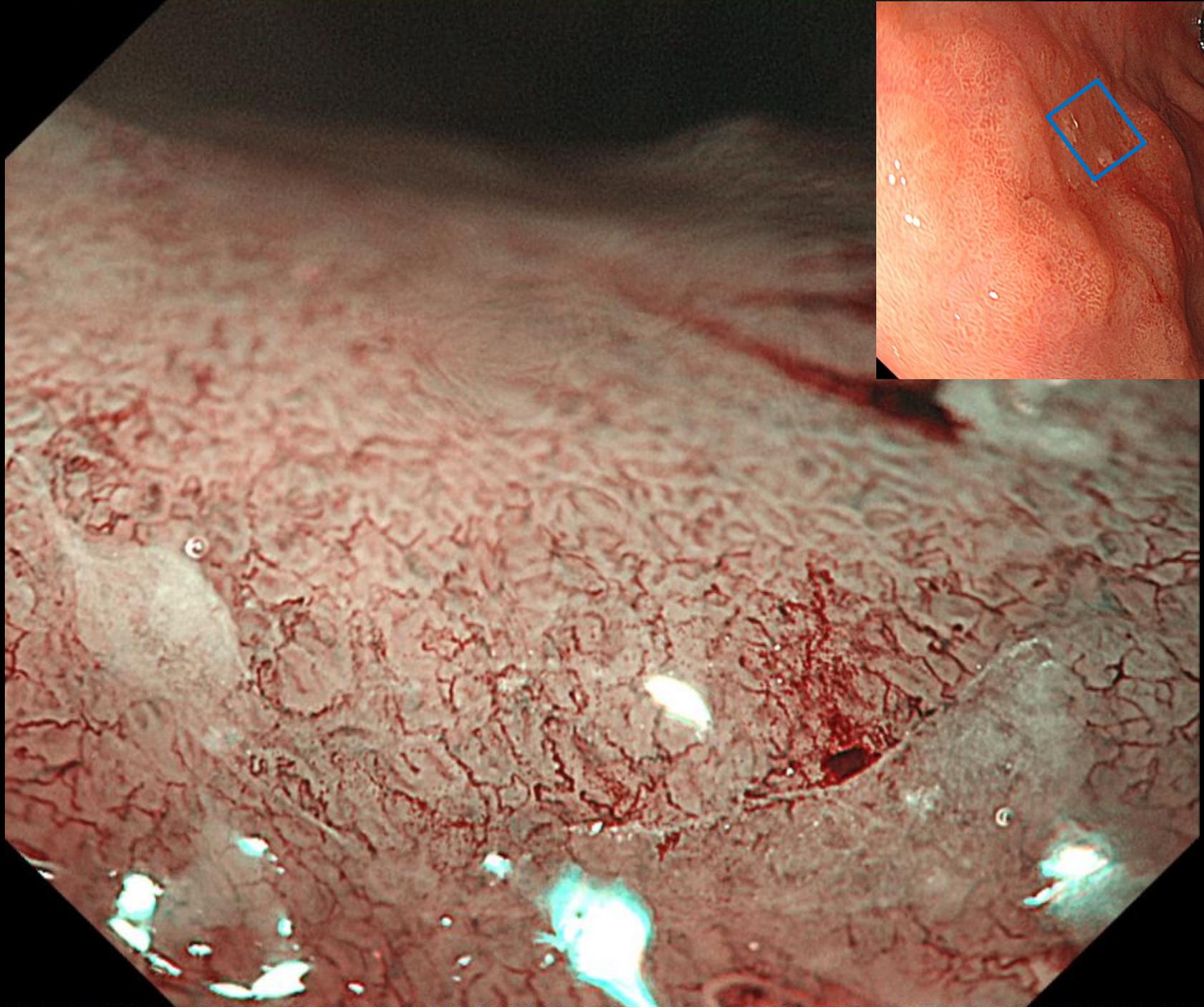
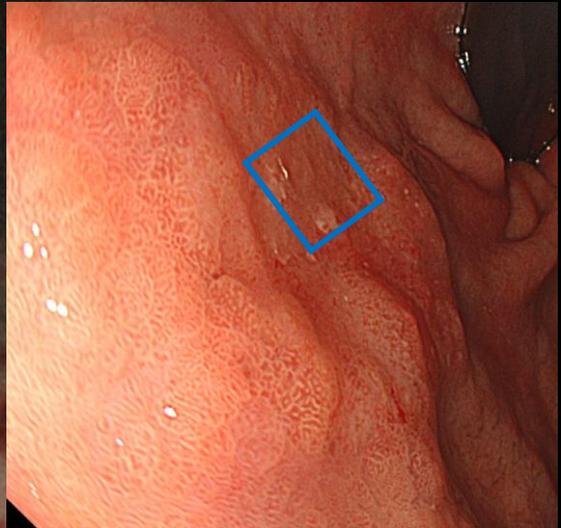










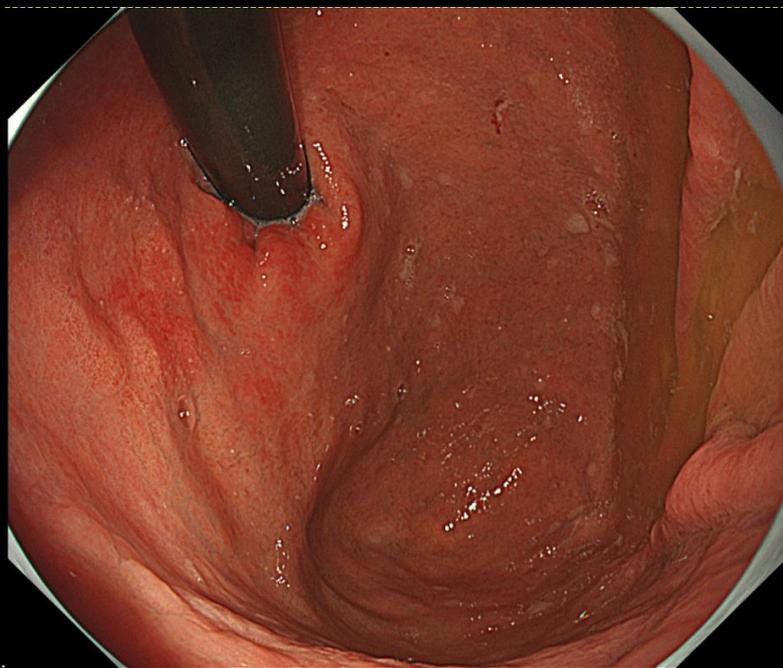


内視鏡診断

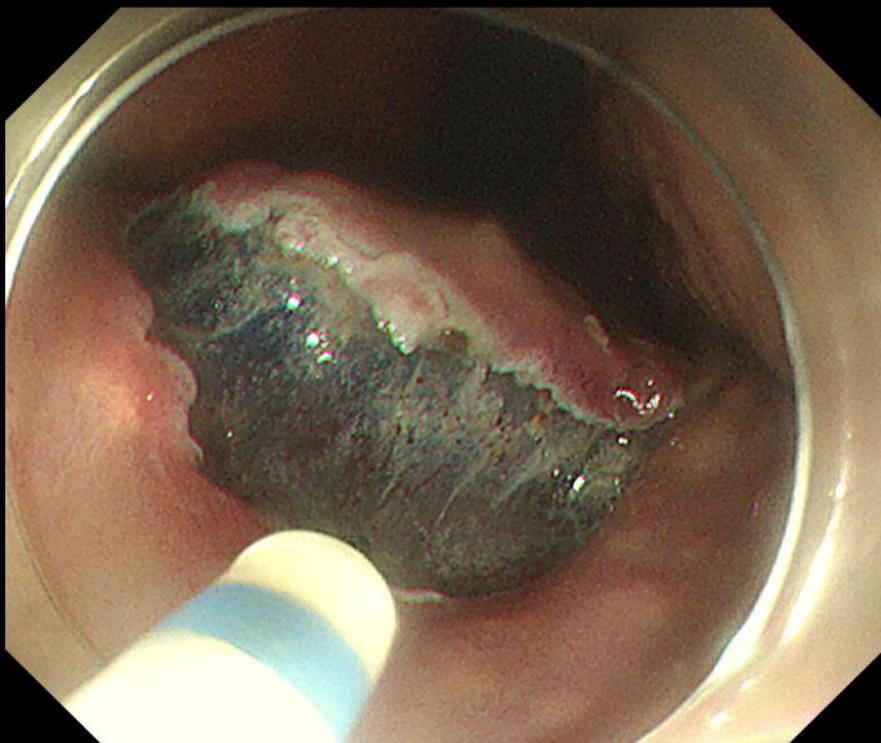
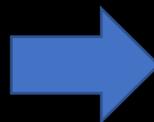
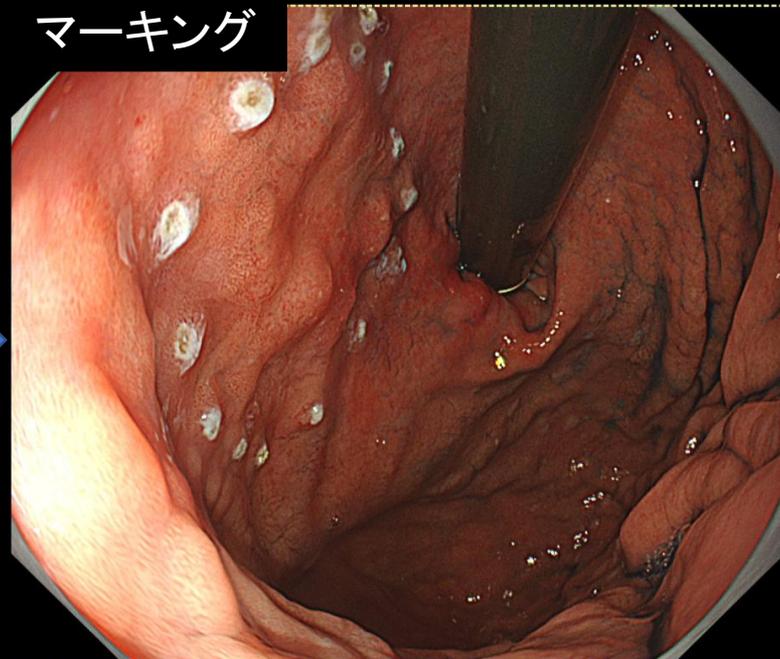
早期胃癌

大きさ:20mm程度 肉眼型:0-II a+ II c, 分化型
深達度:SM1、UL:(-),
NBI観察:DL present,
微小血管構造:irregular,
表面微細構造:irregular
送気脱気で中央部に硬さを感じる

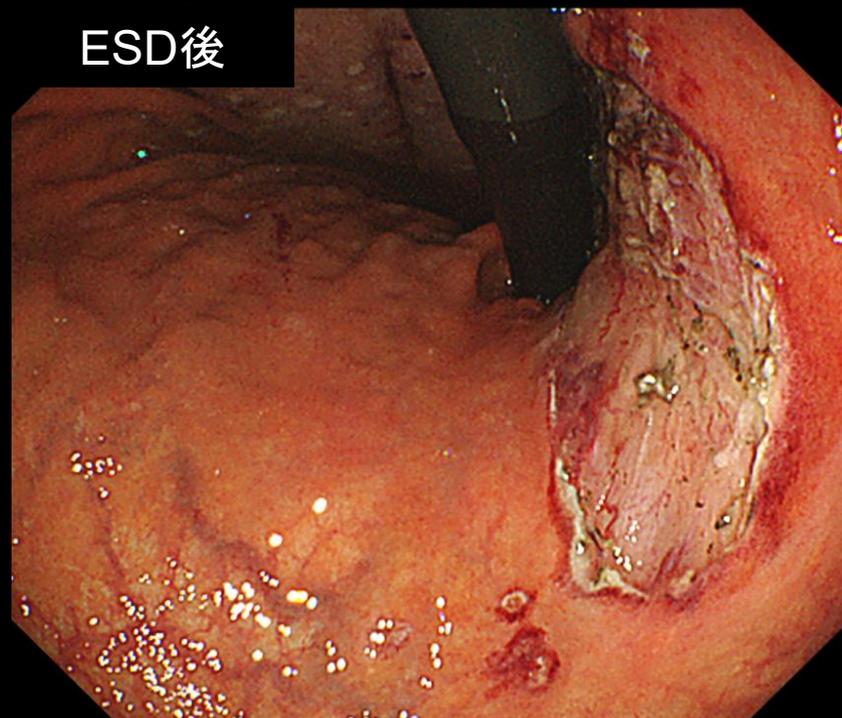
ESD

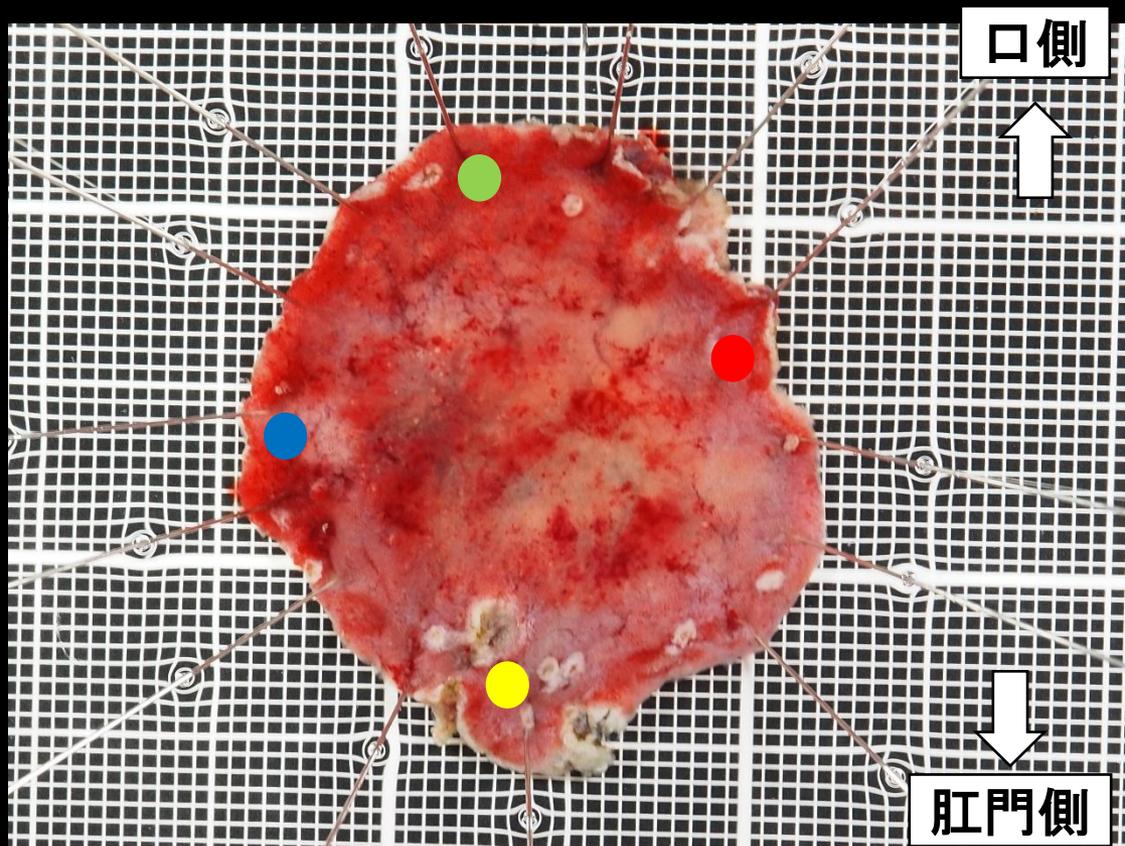
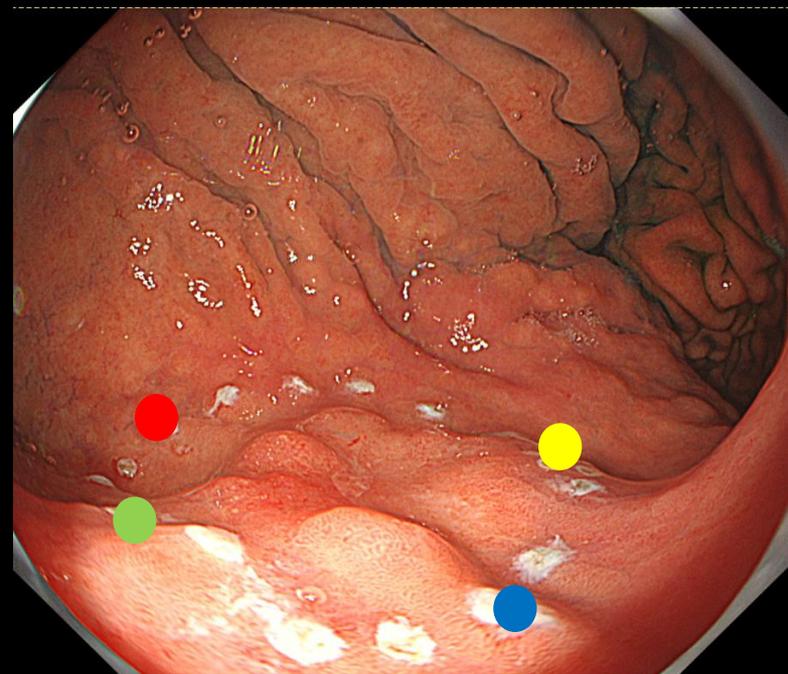
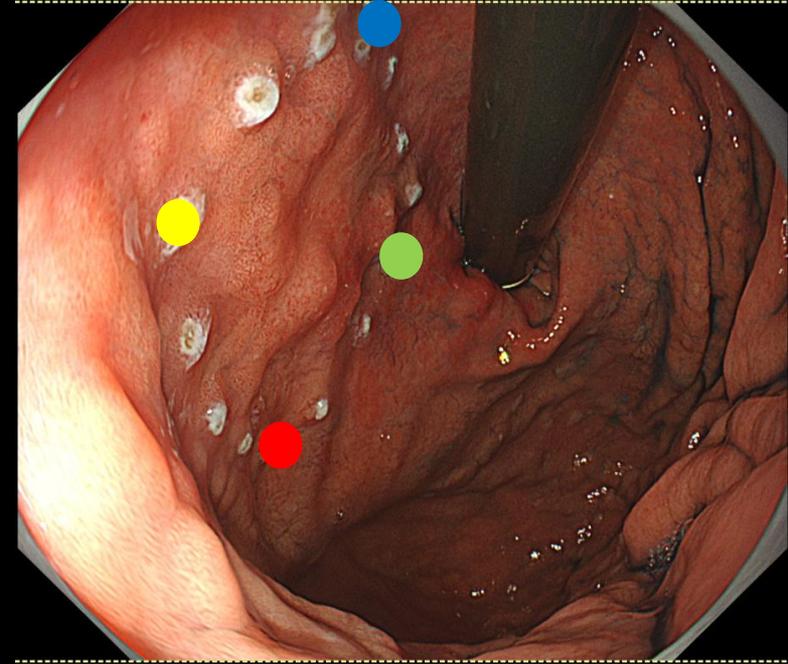


マーキング

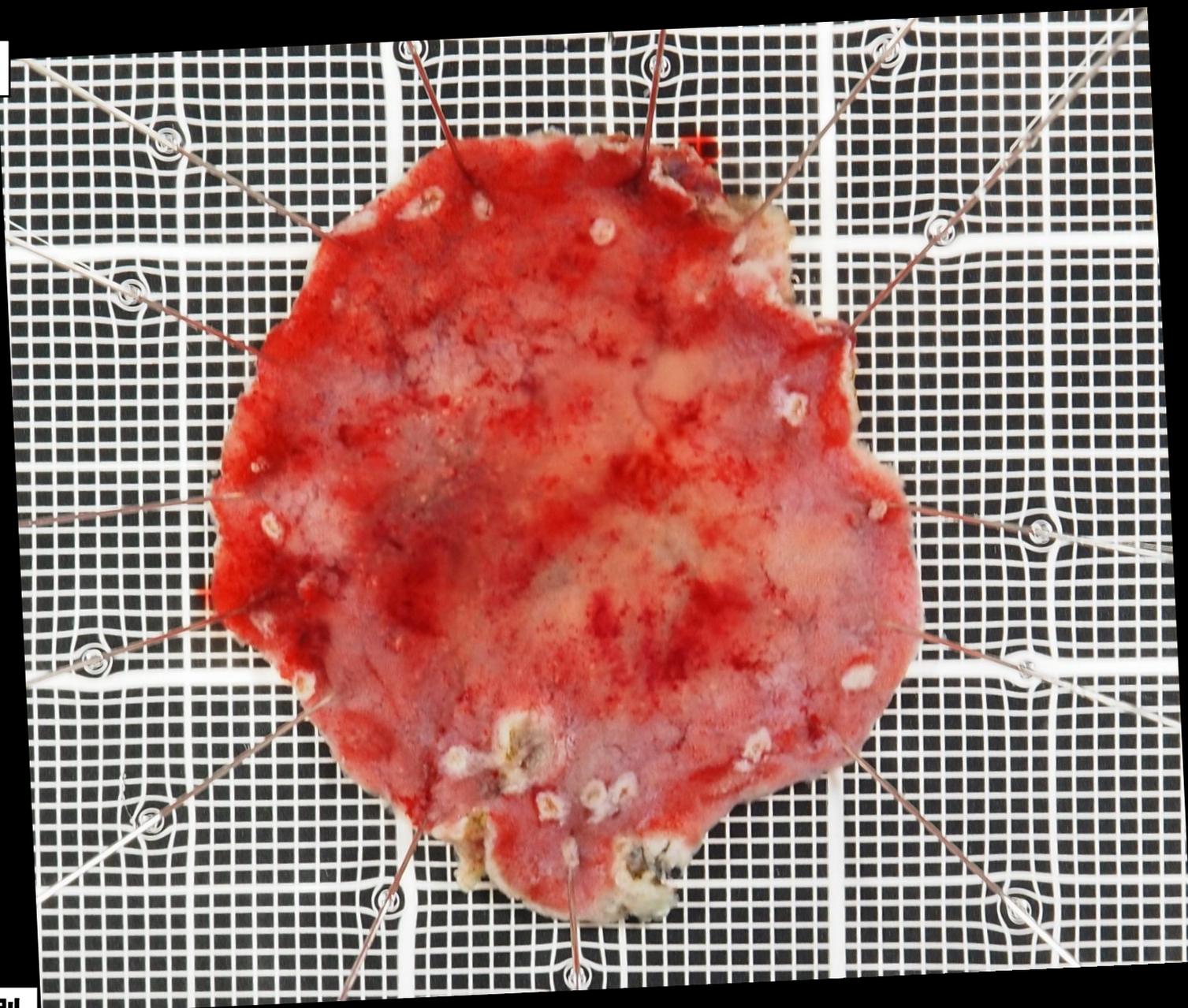


ESD後





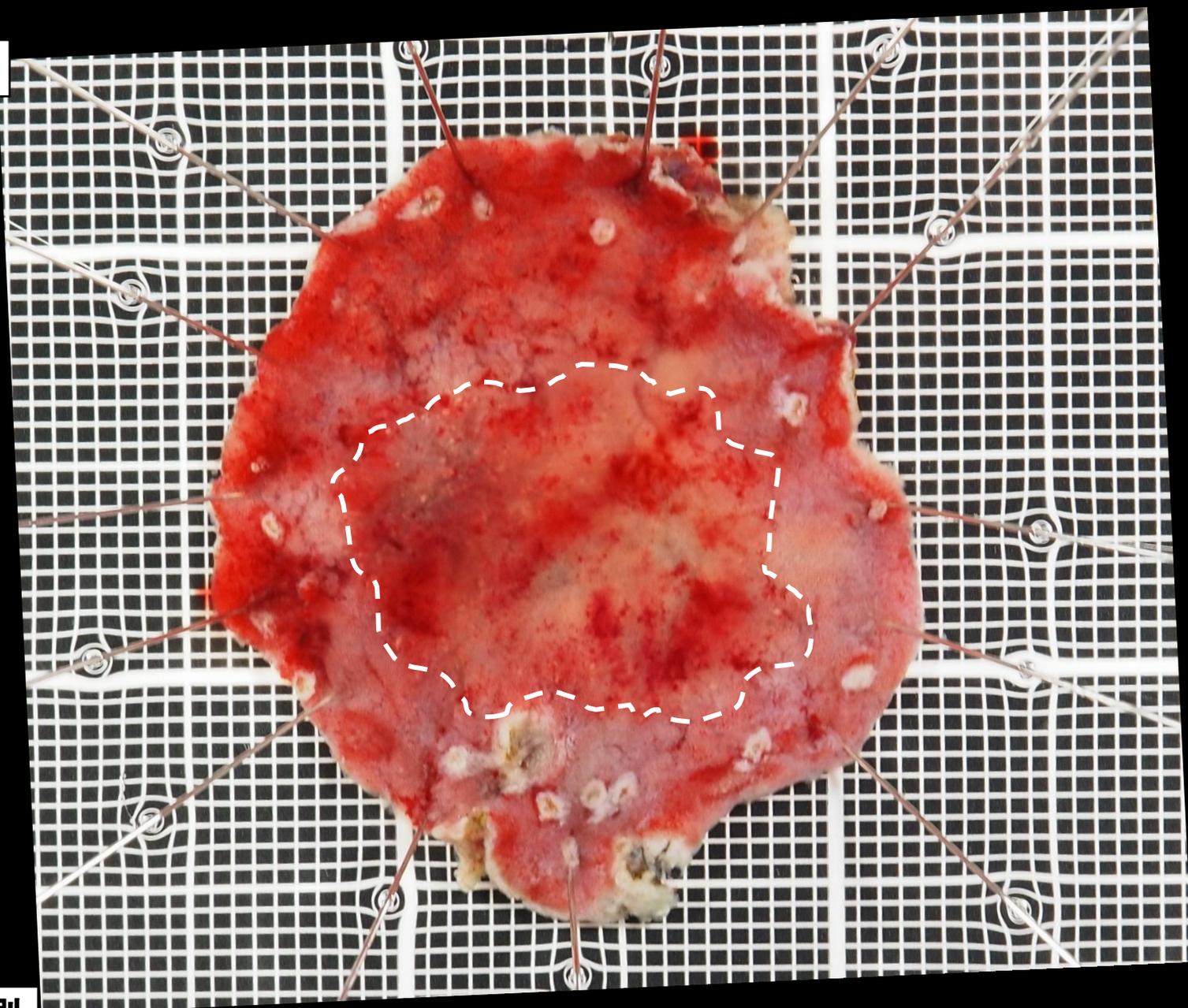
口側



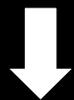
肛門側



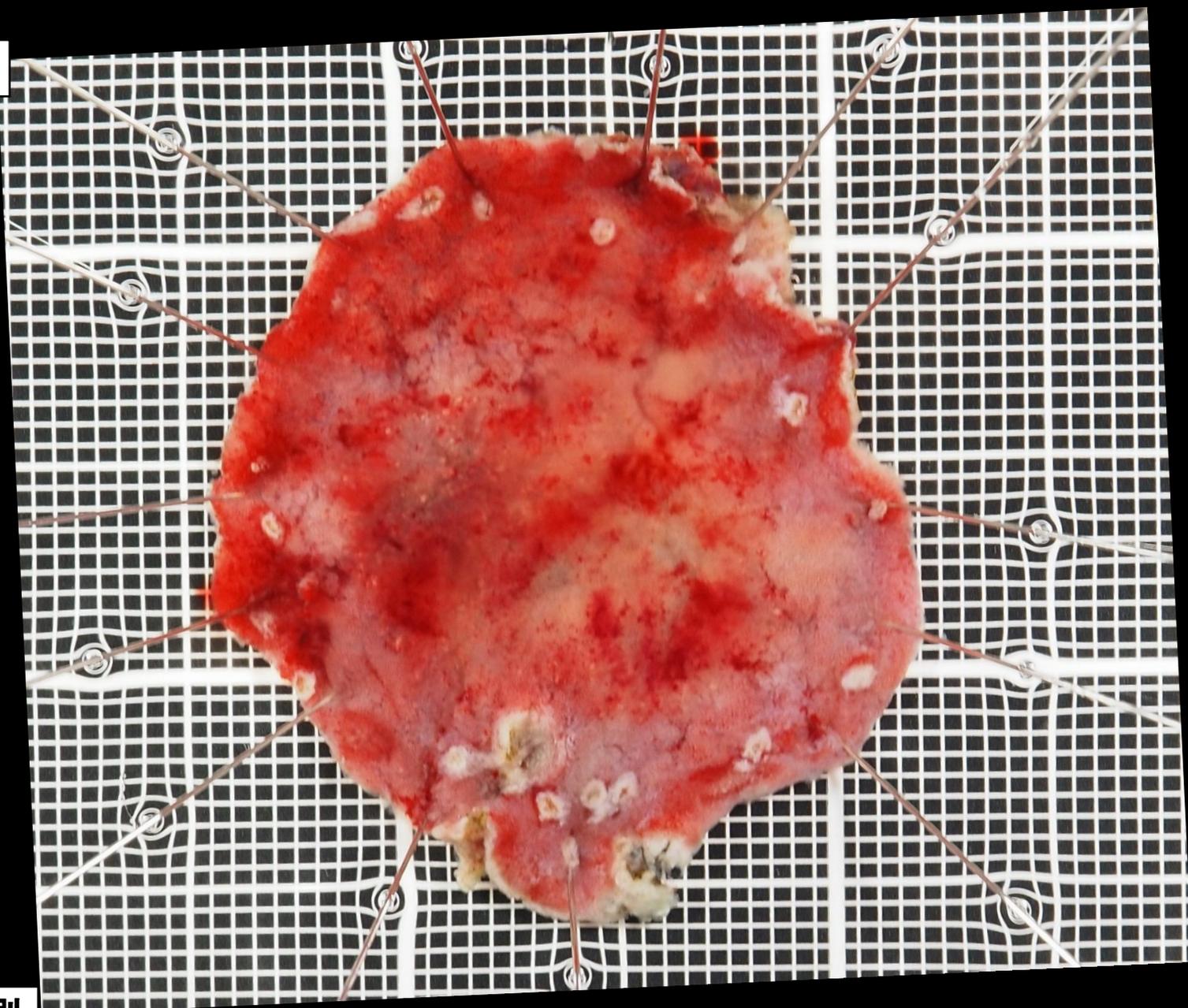
口側



肛門側



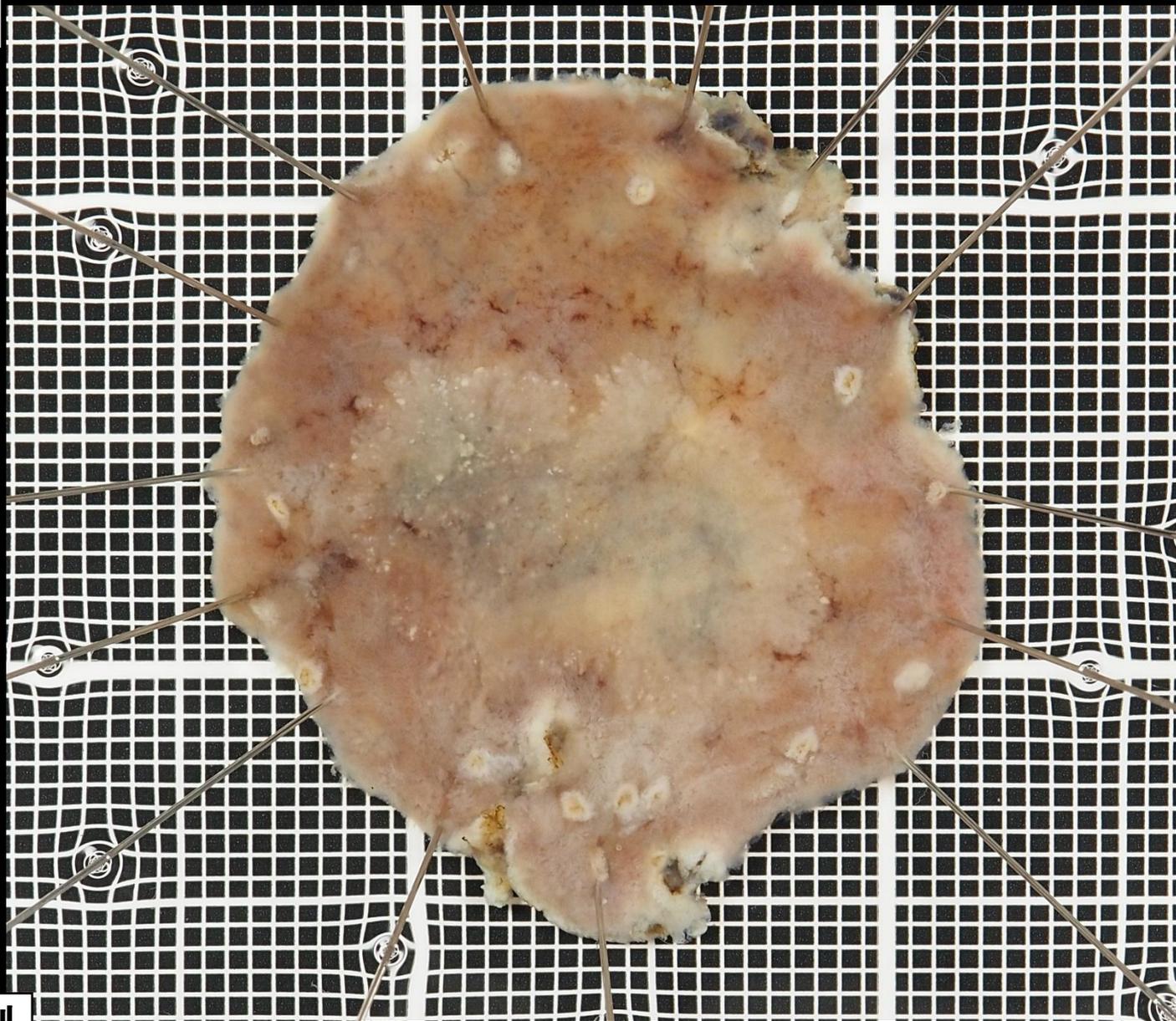
口側



肛門側



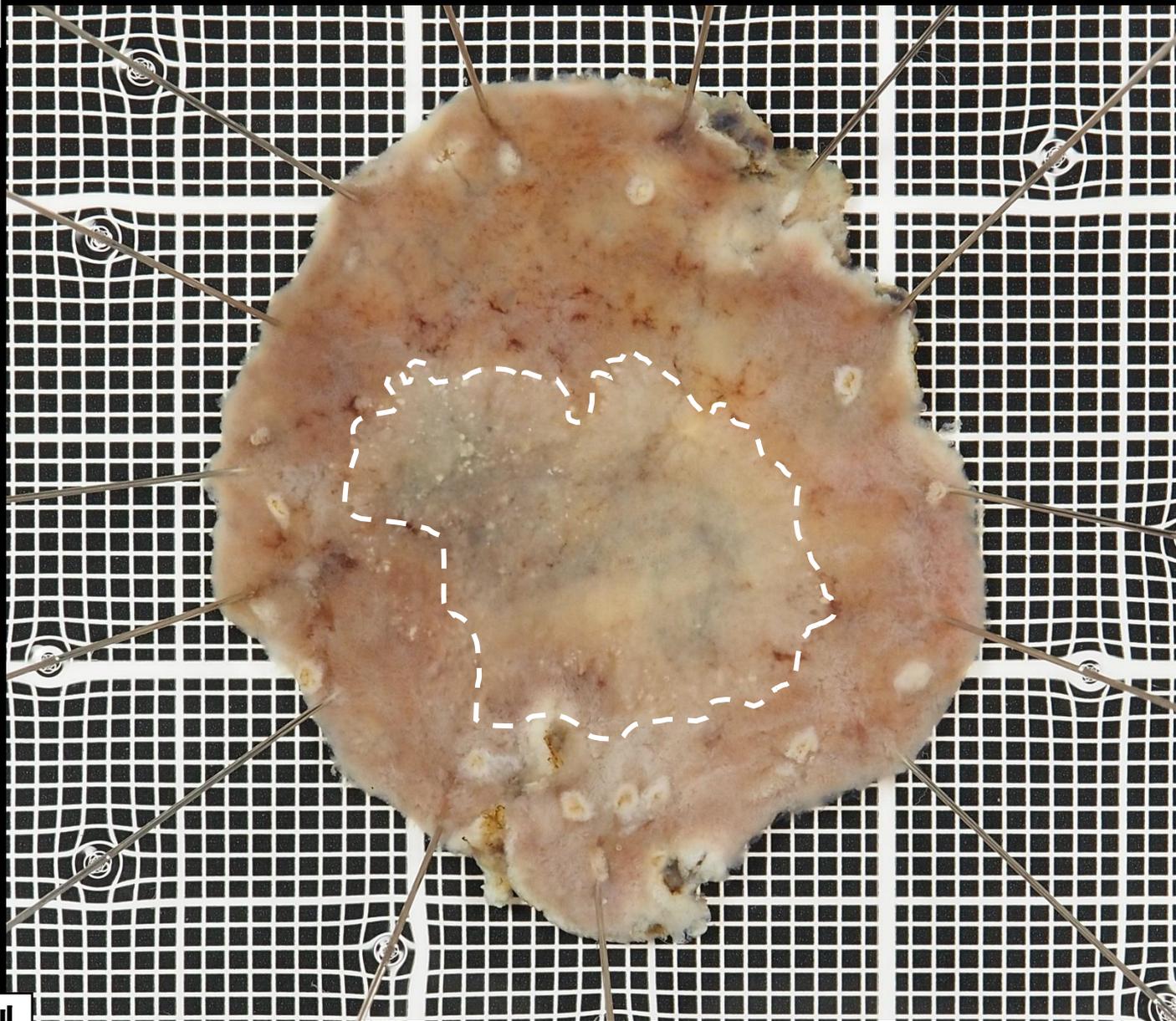
口側



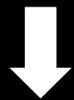
肛門側



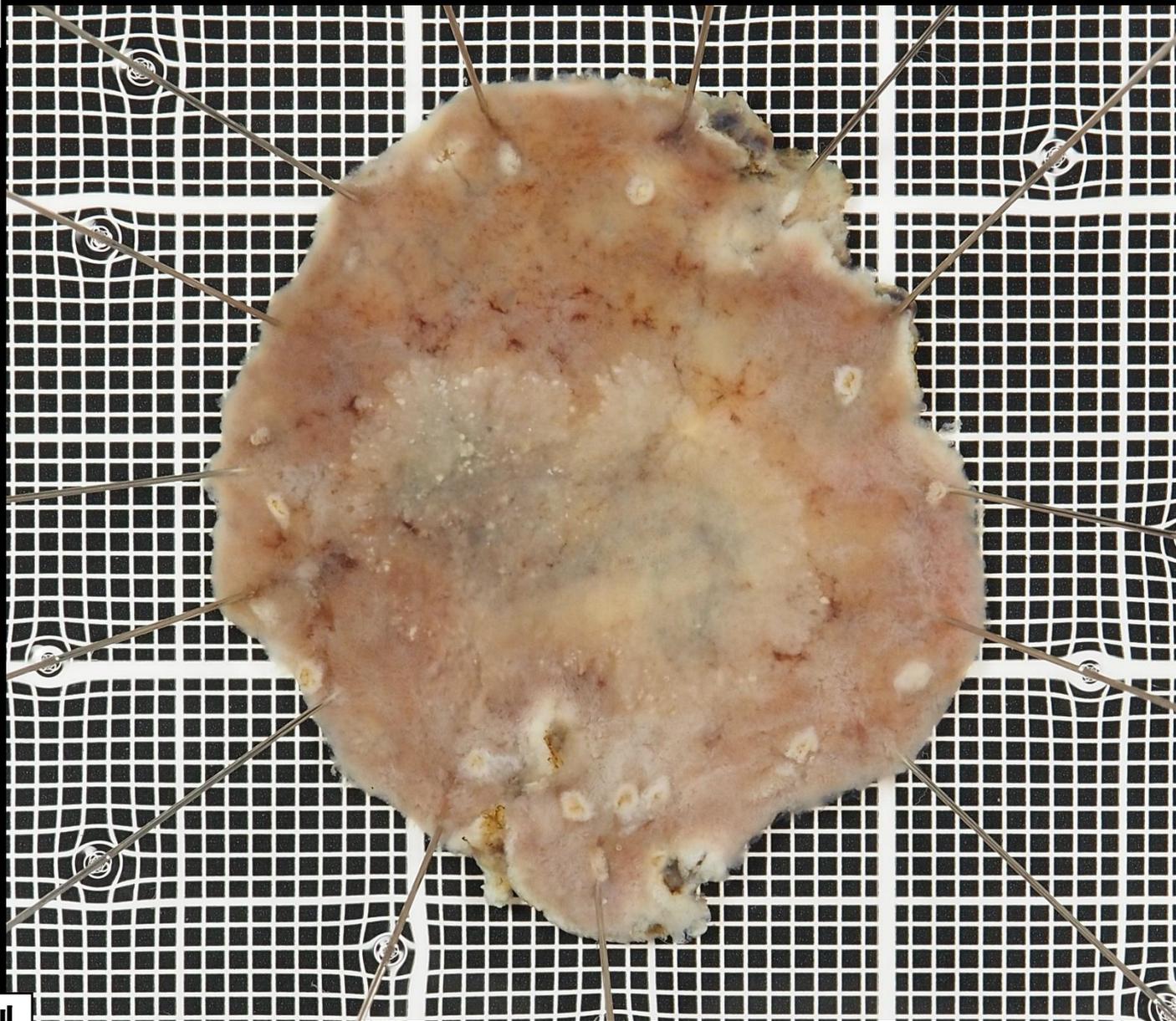
口側



肛門側

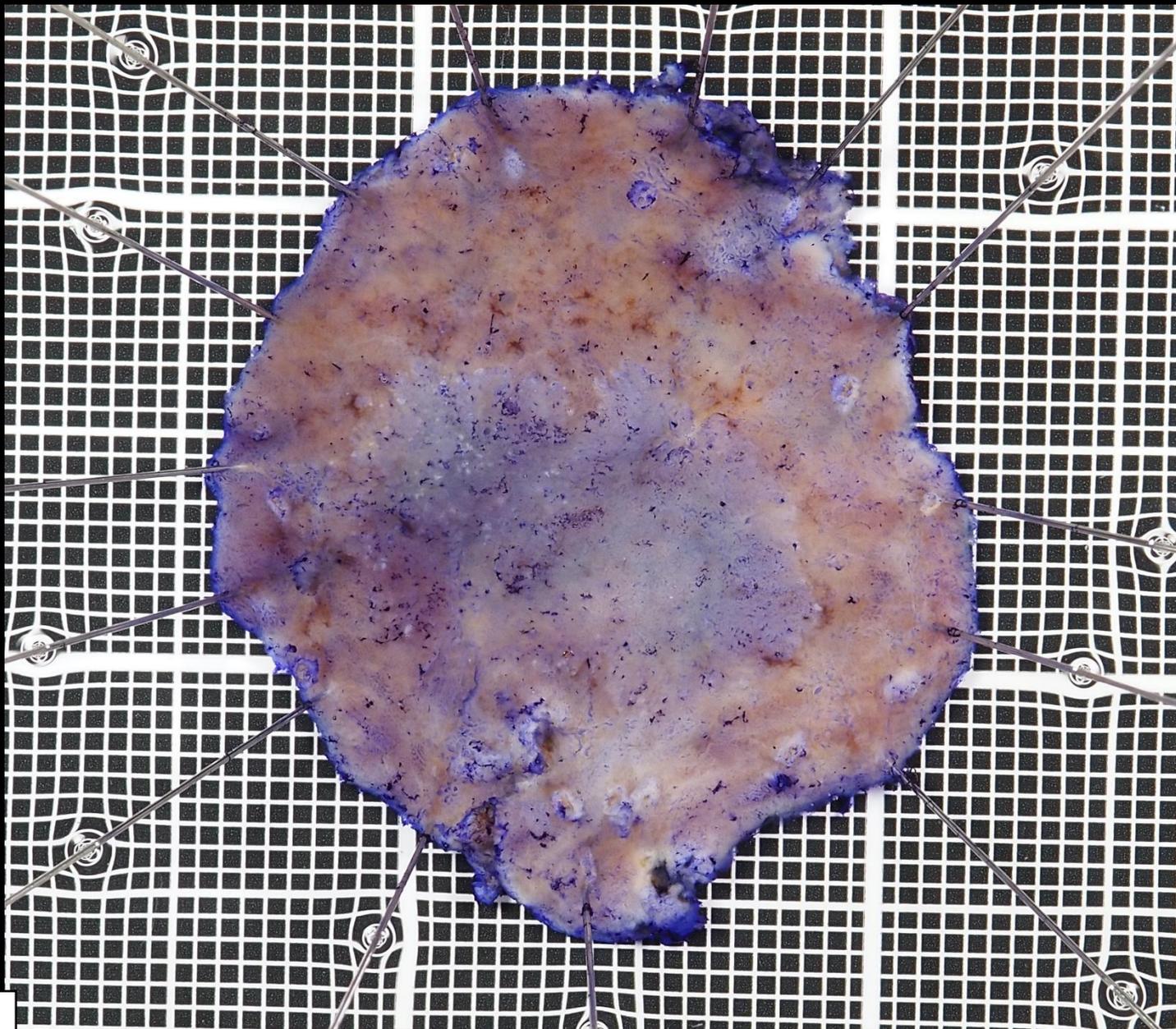


口側



肛門側

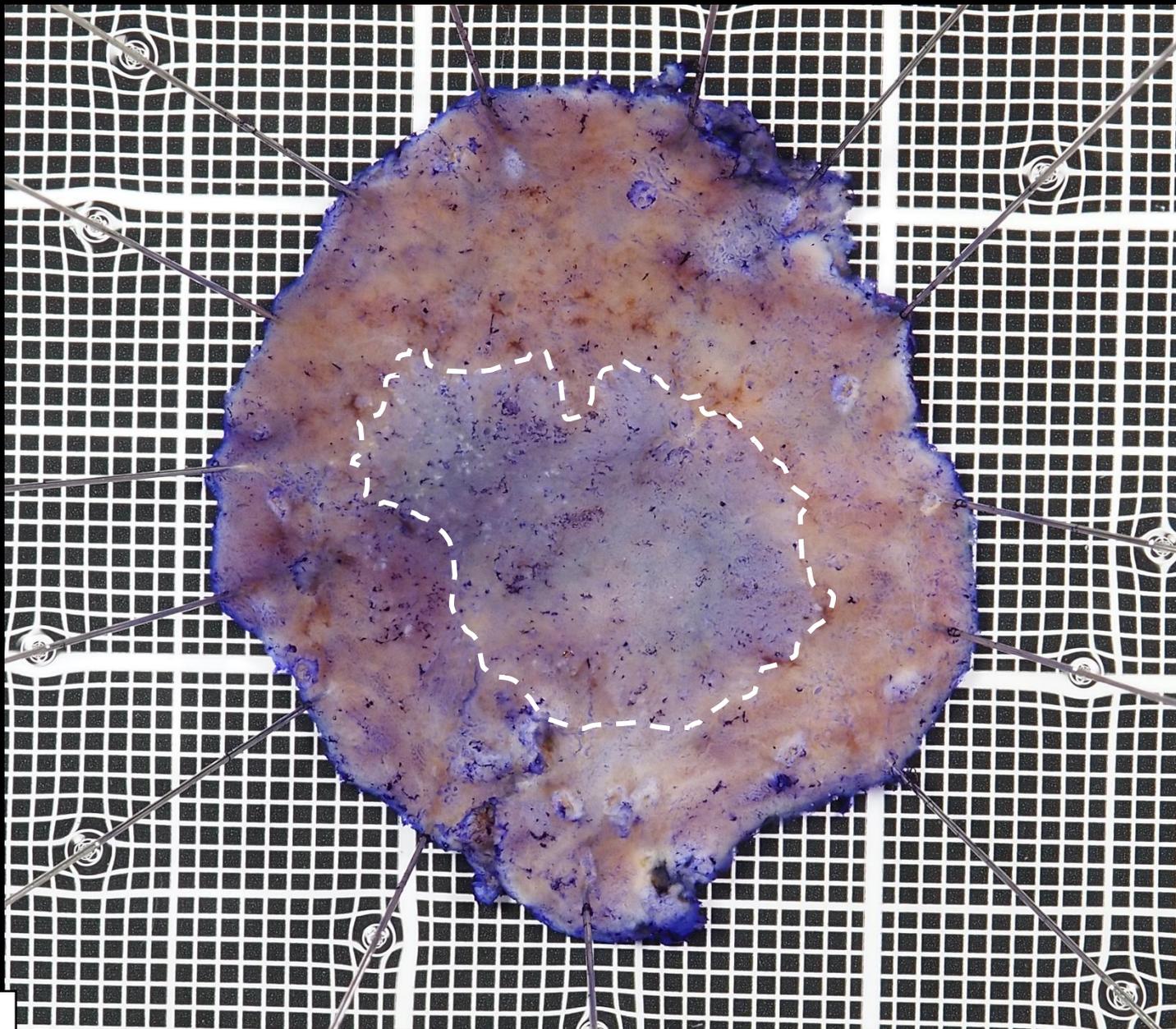
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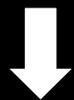
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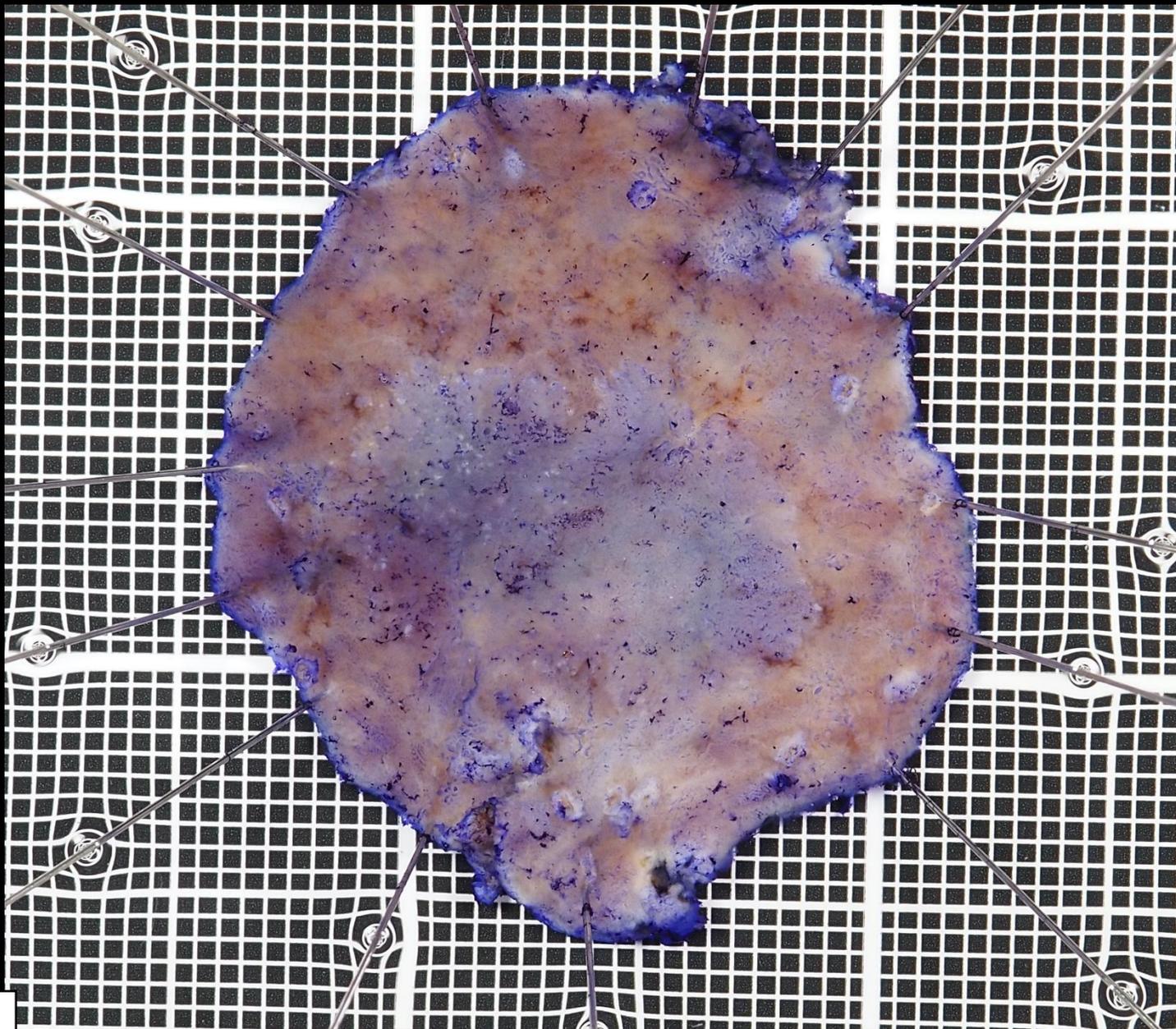
口側



肛門側



口側



肛門側



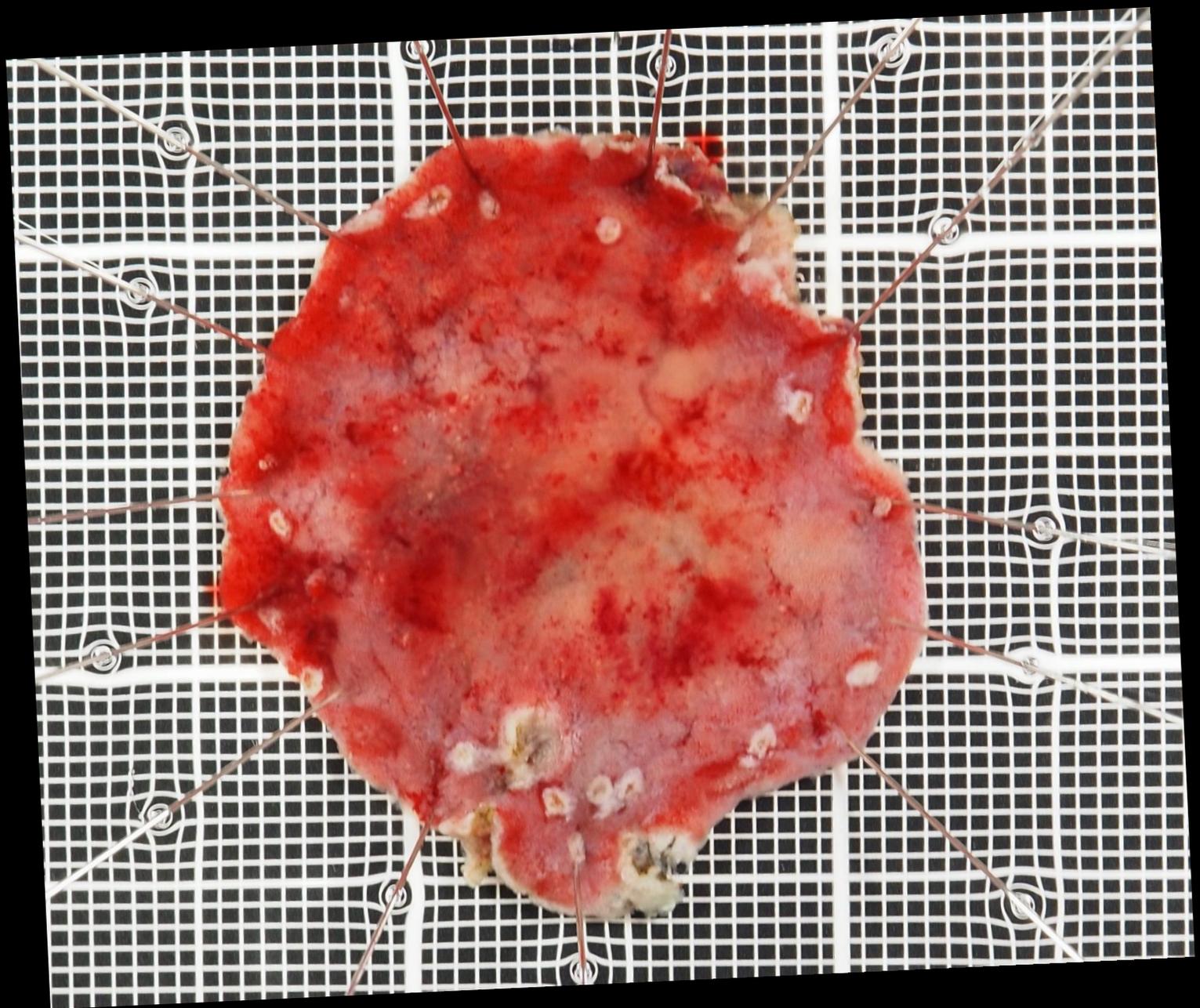


13



1



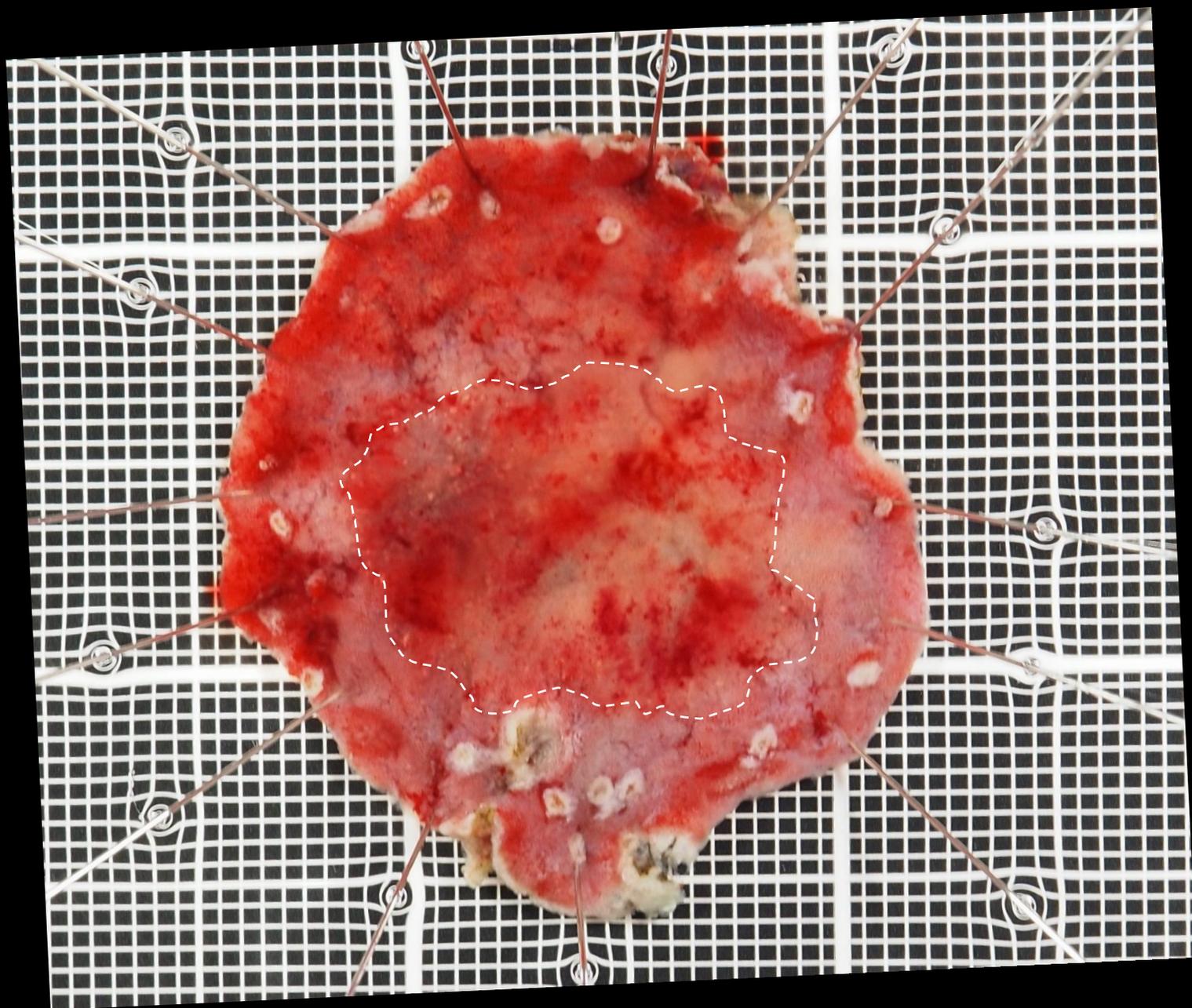


口側



肛門側



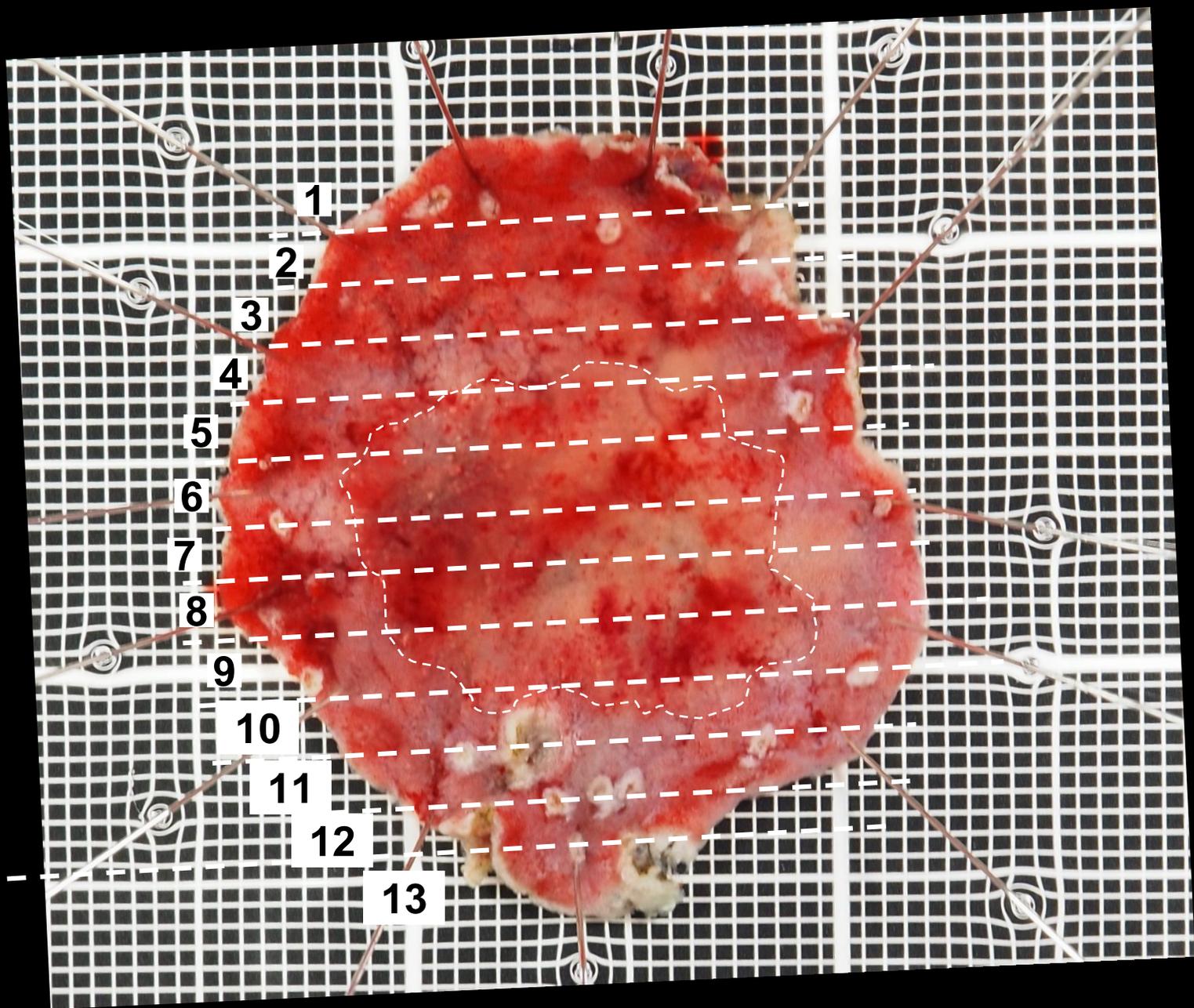
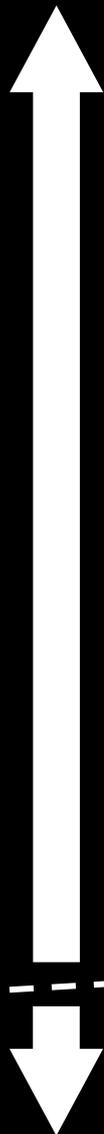


口側



肛門側



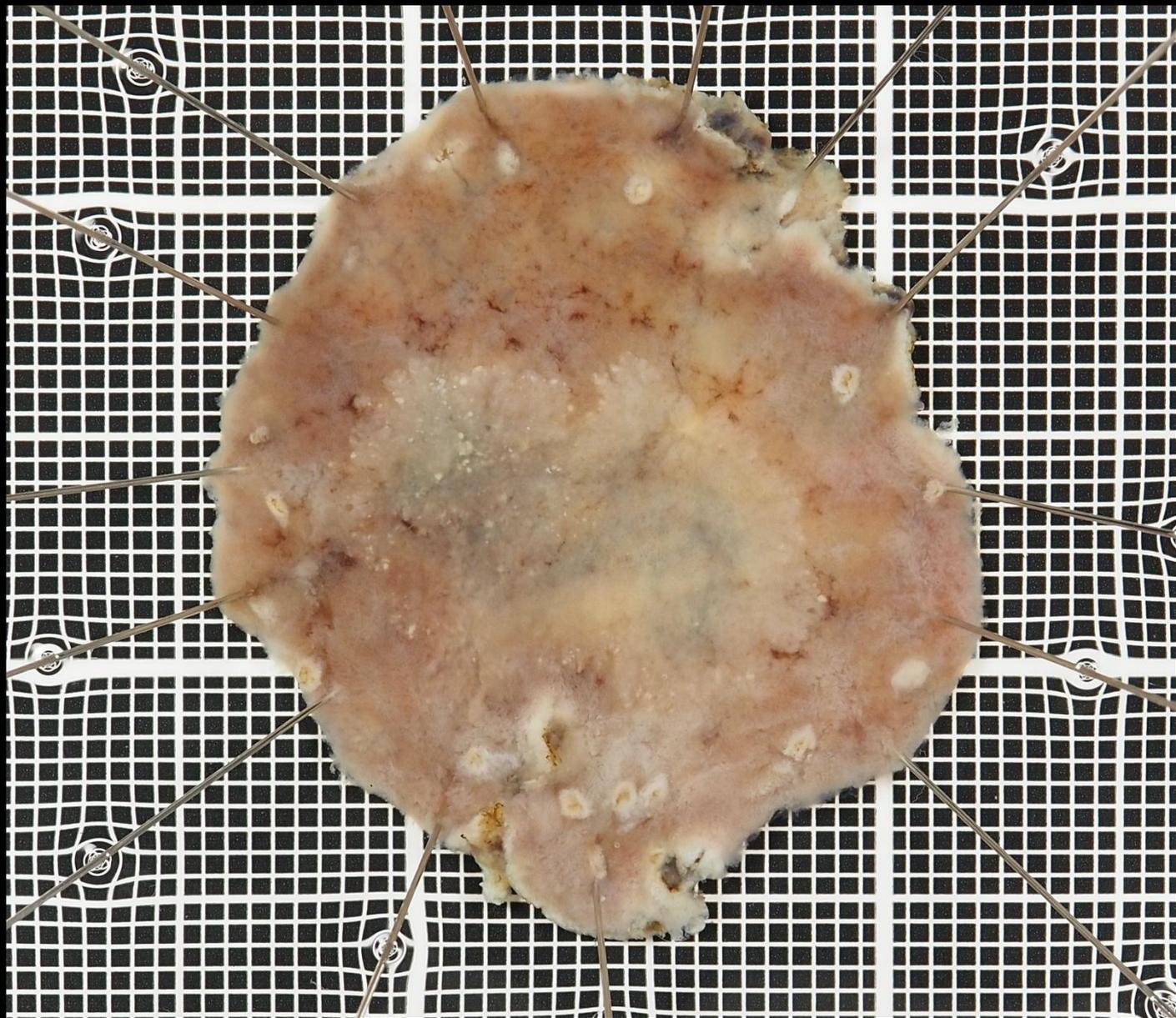


口側



肛門側



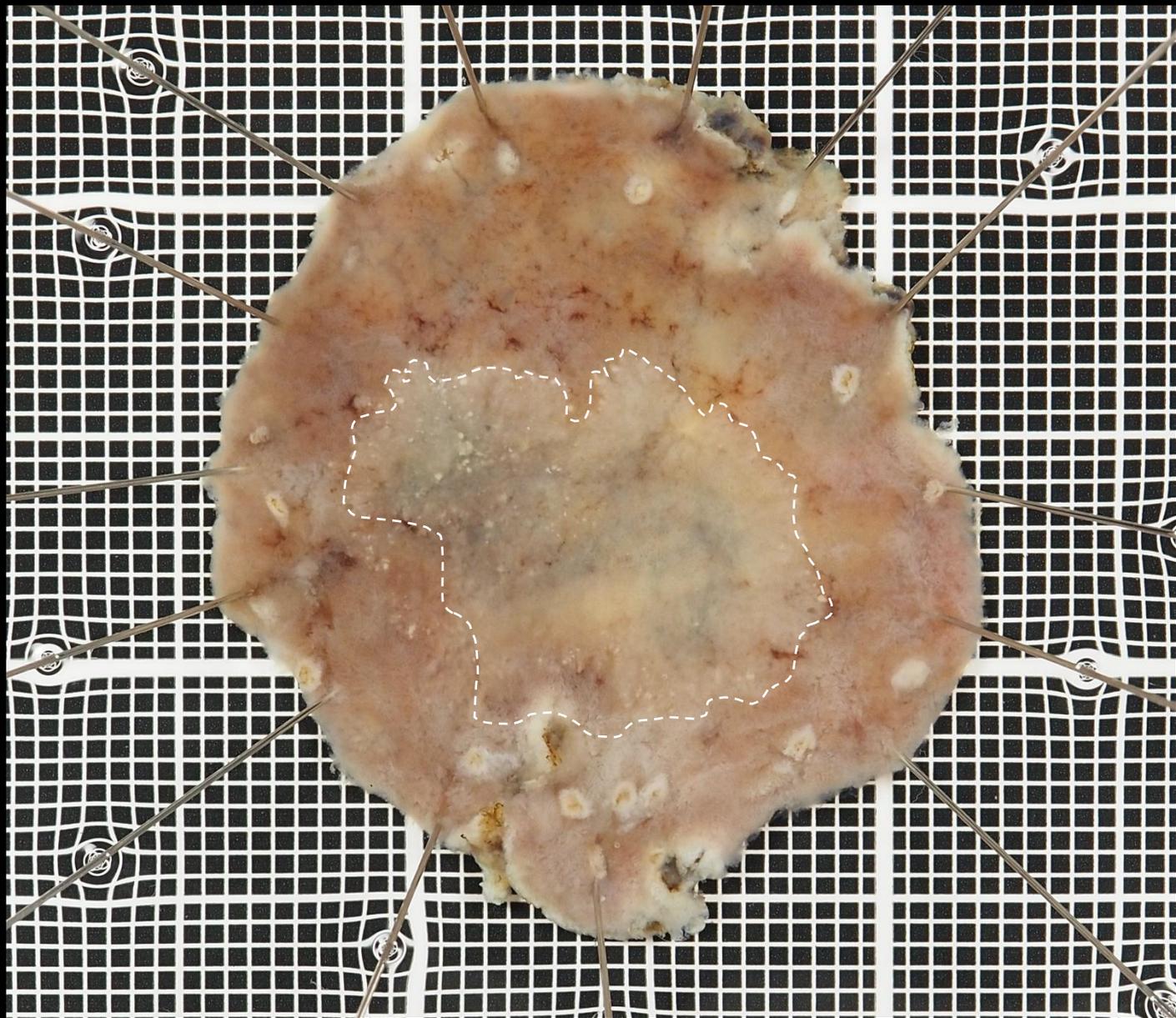


口側



肛門側



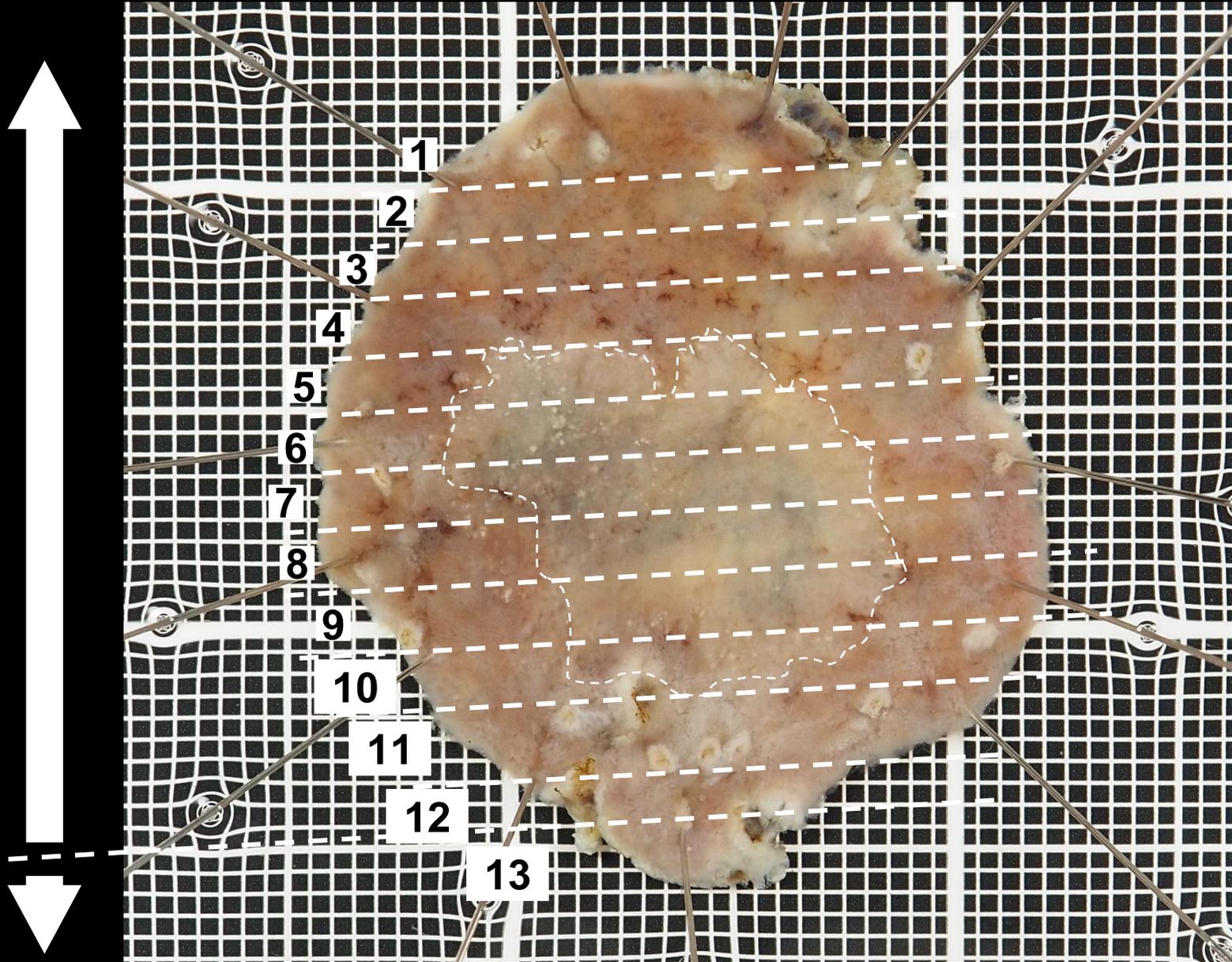


口側



肛門側



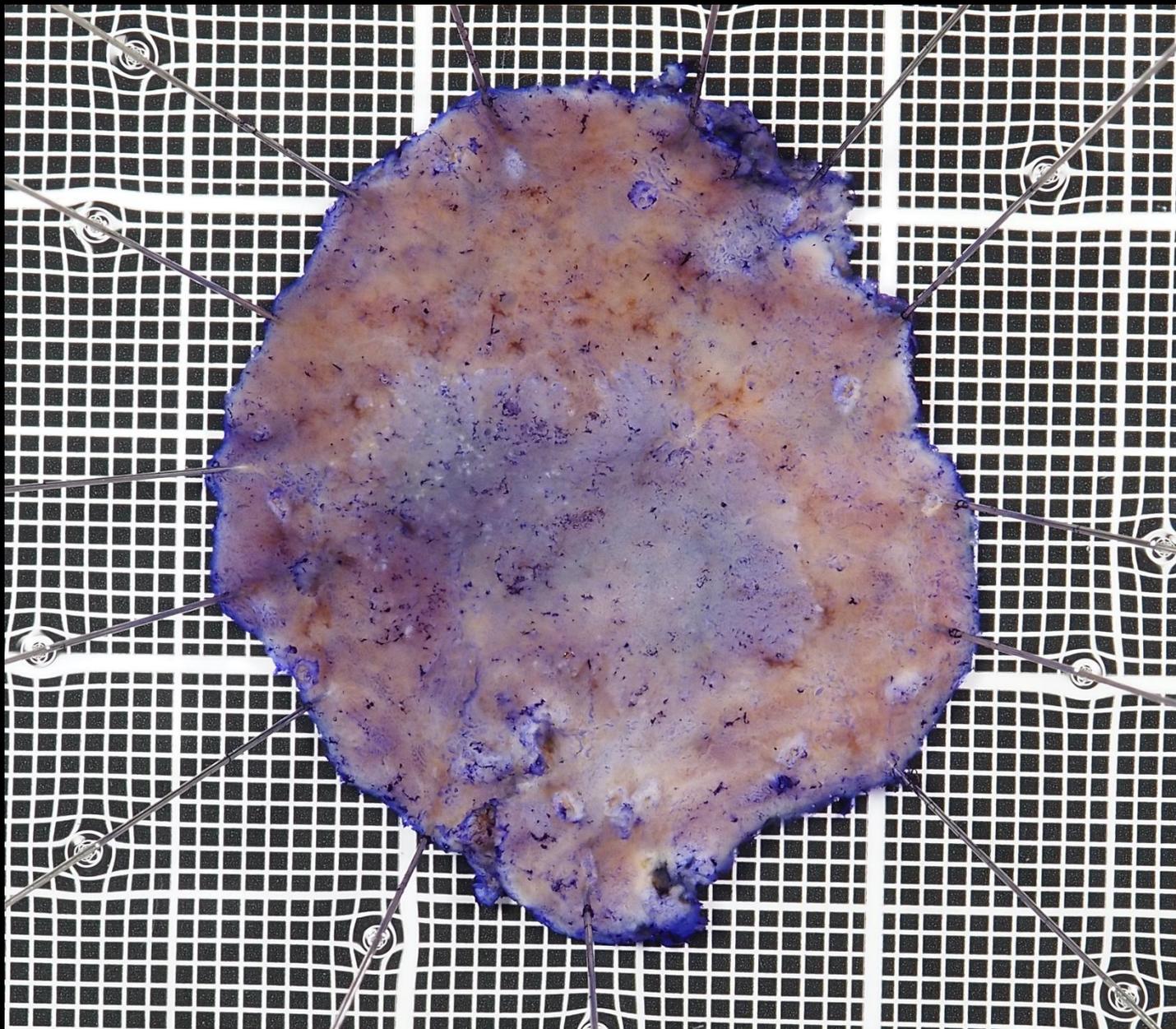


口側



肛門側

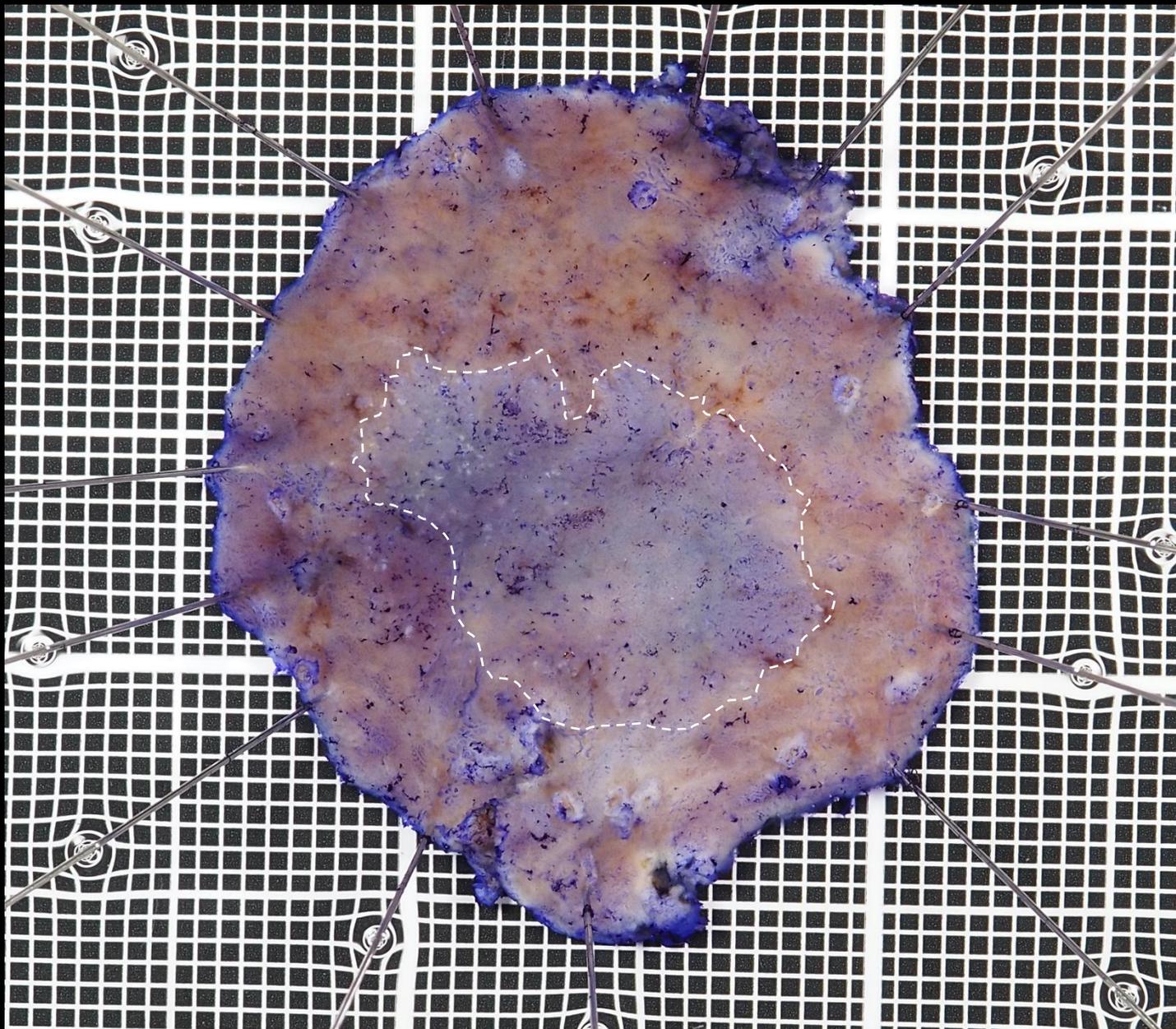




口側



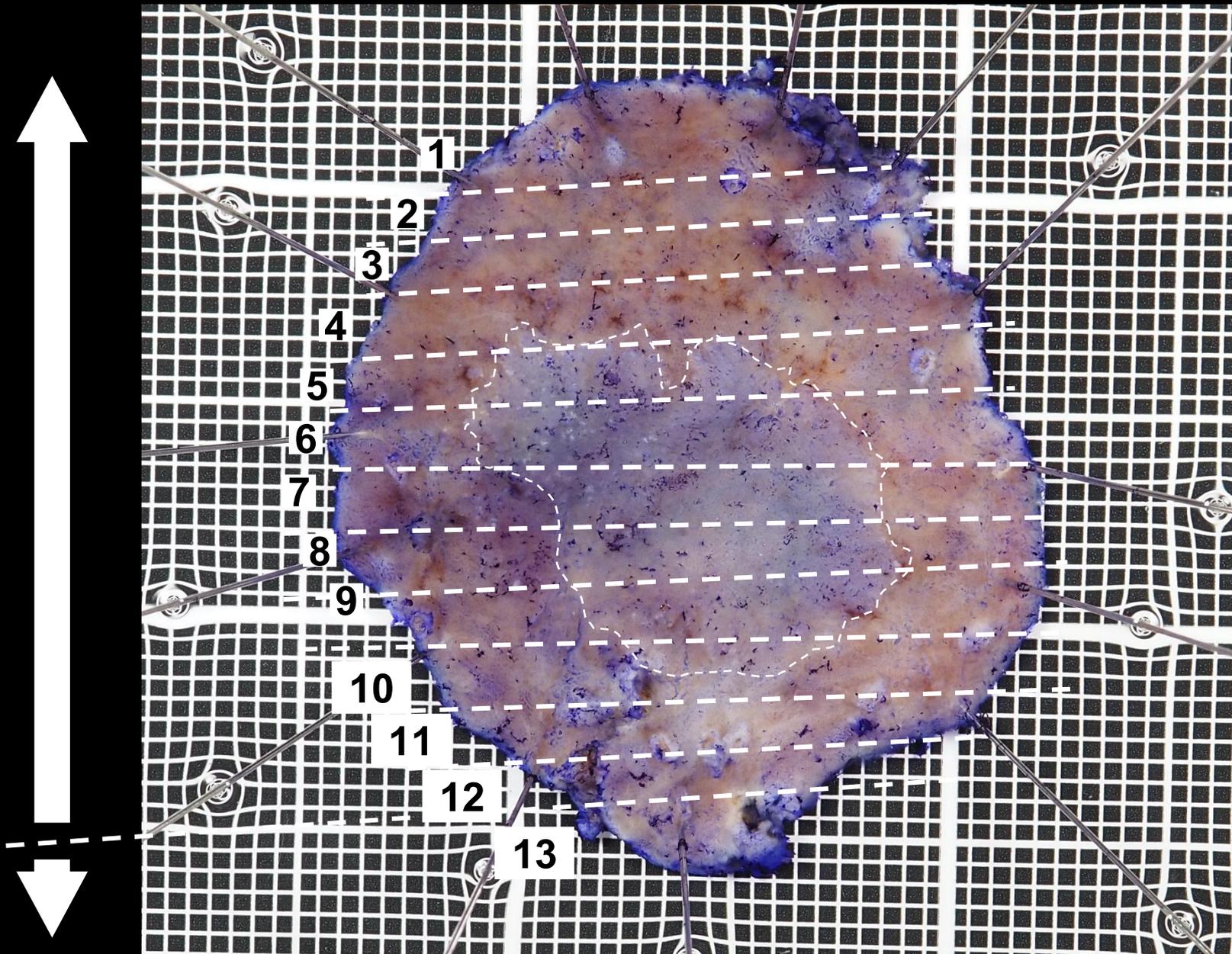
肛門側



口側



肛門側



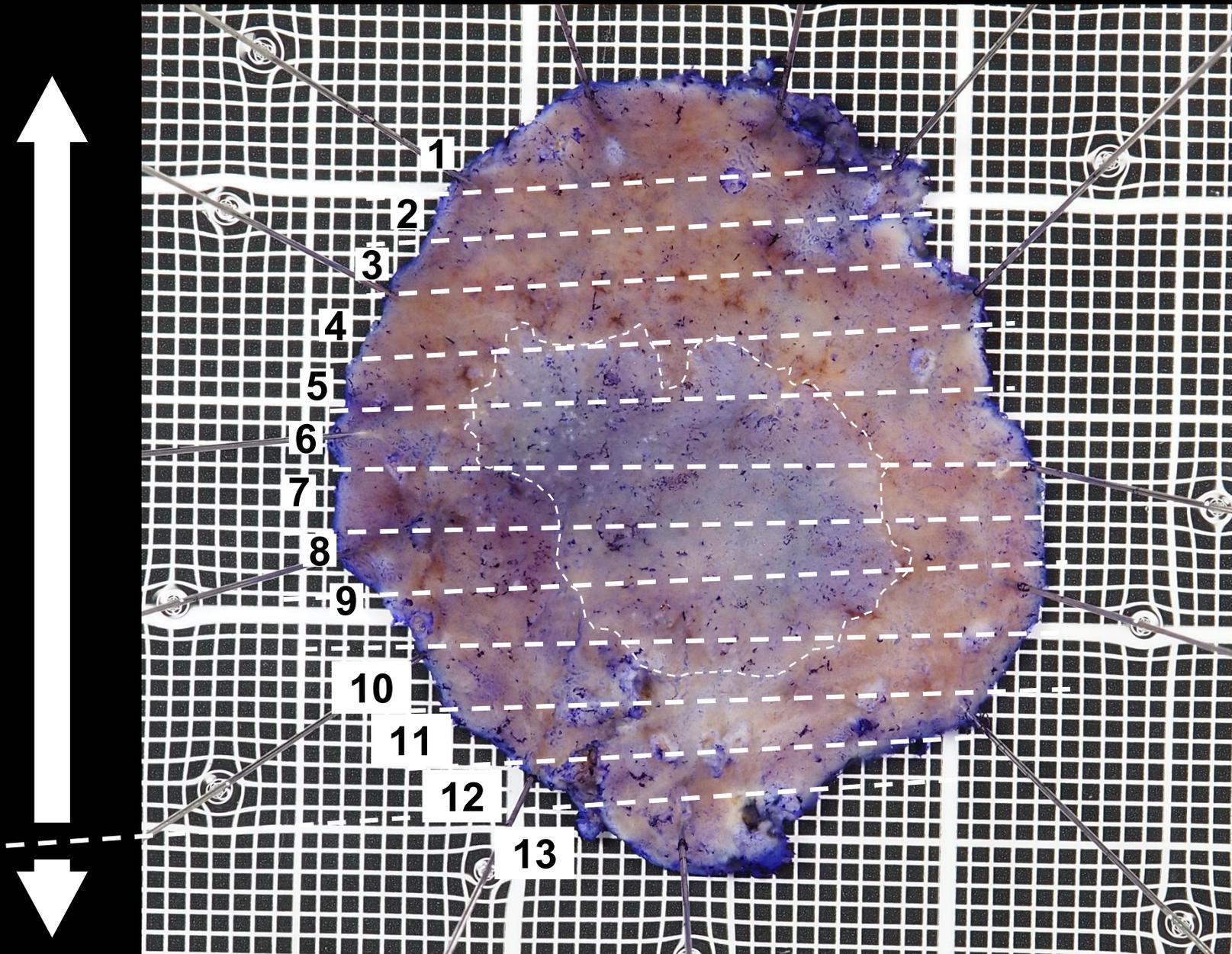
口側



肛門側



Key Slice

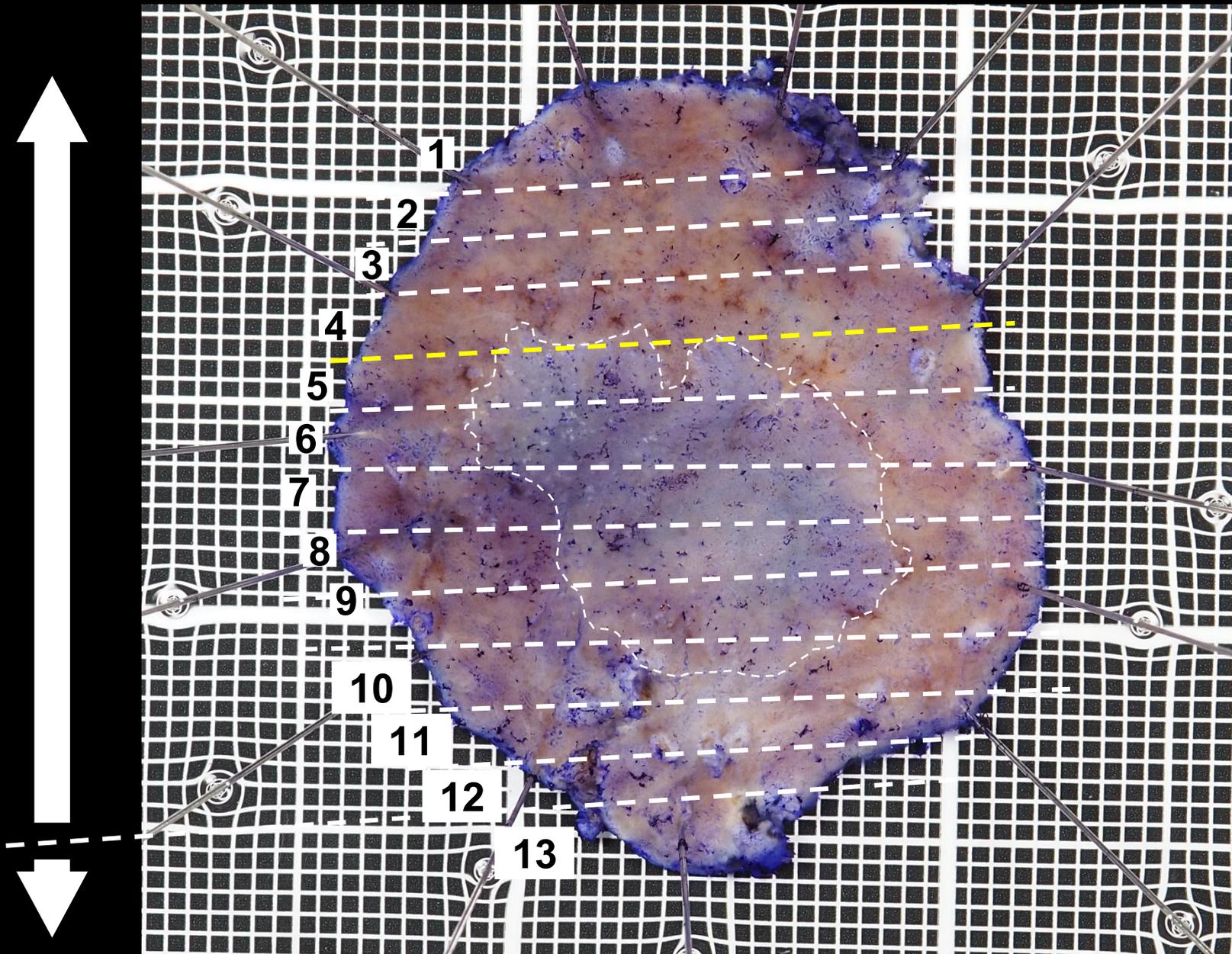


口側



肛門側



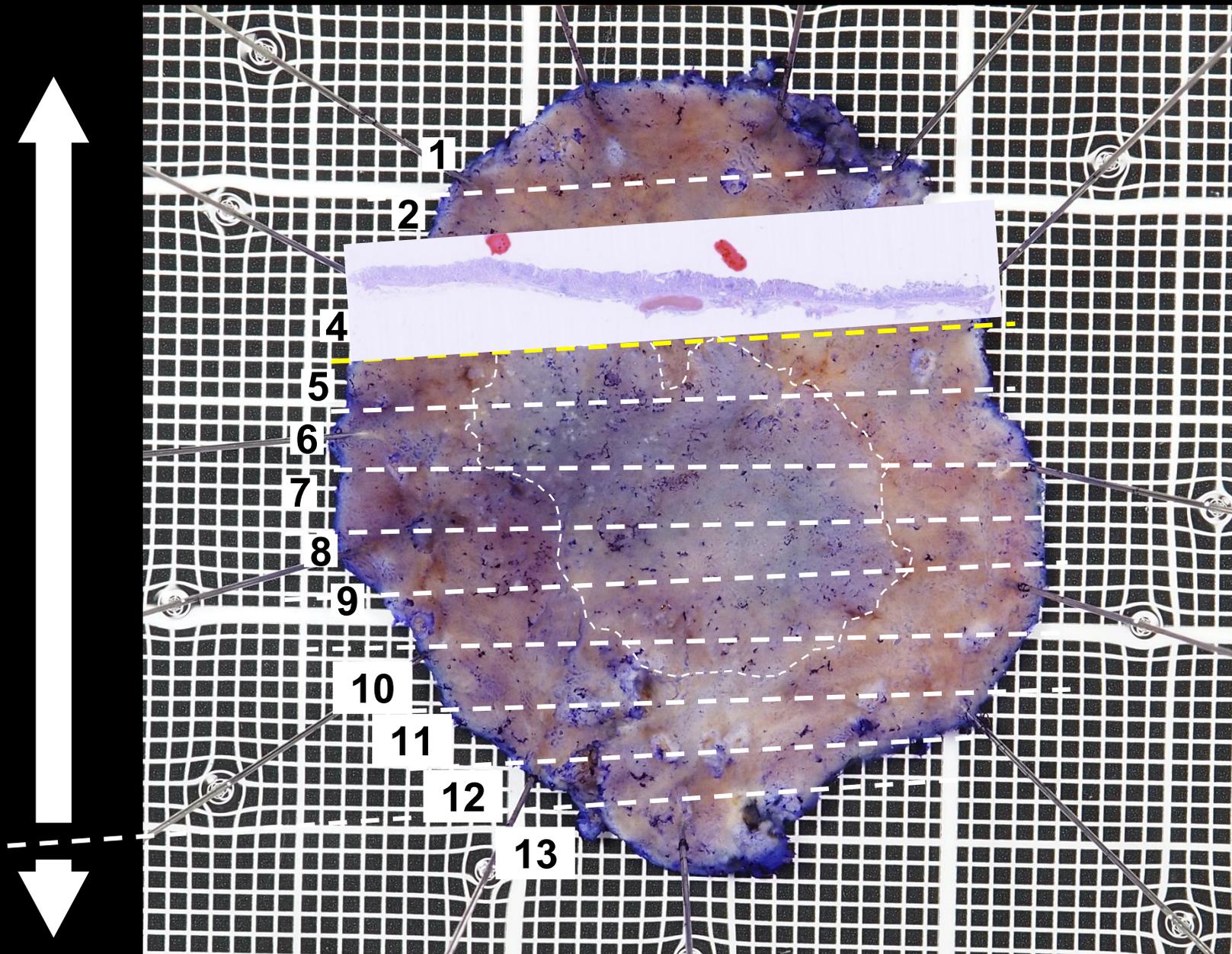


口側



肛門側



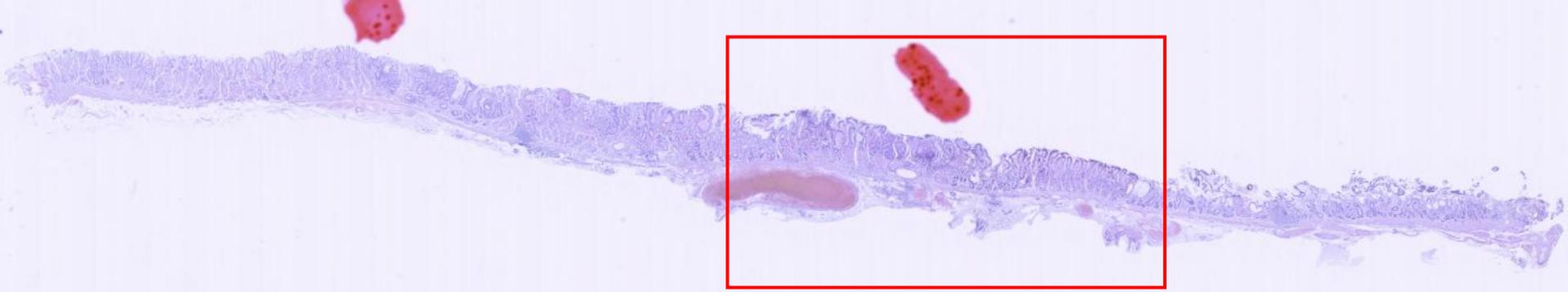


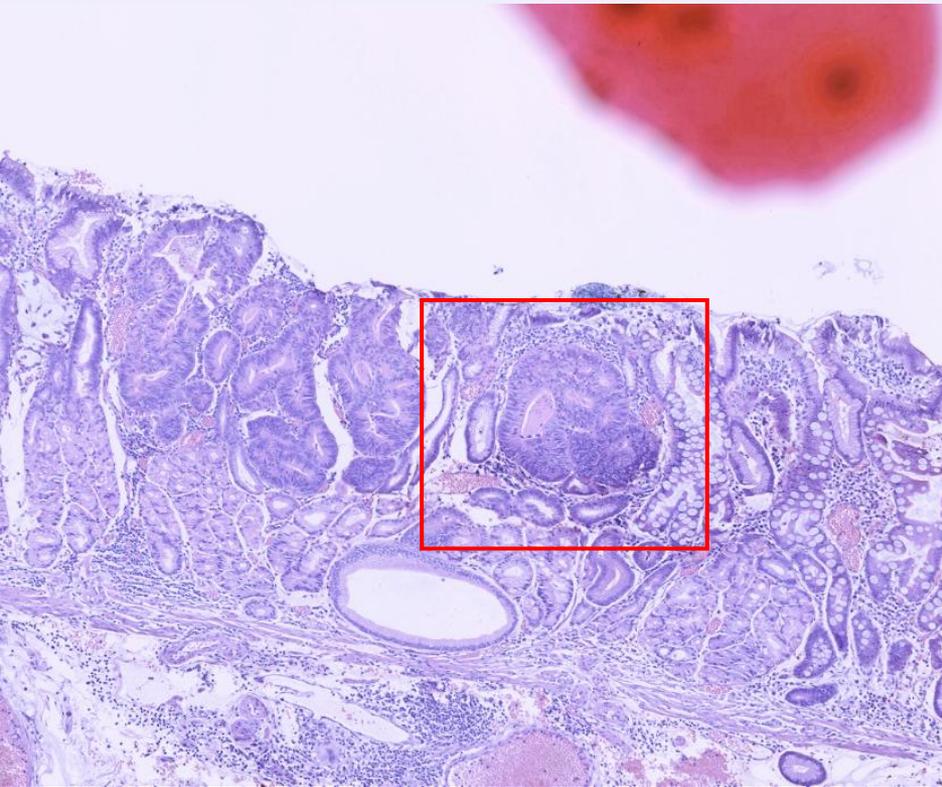
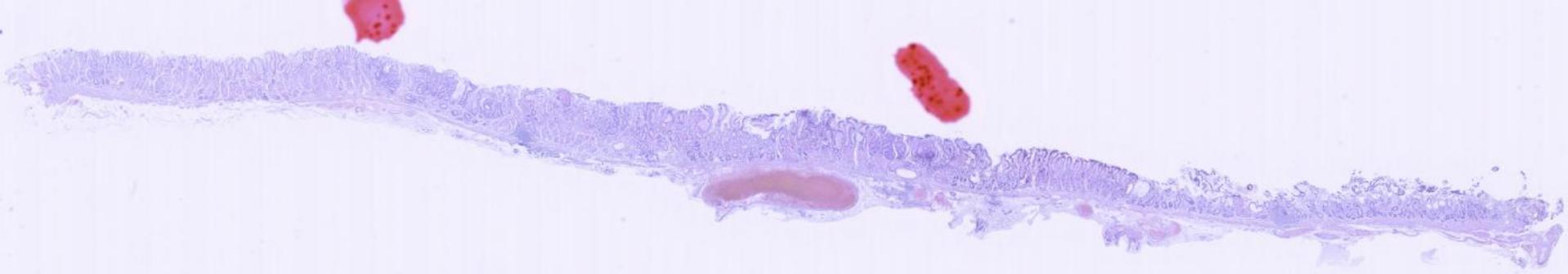
口側

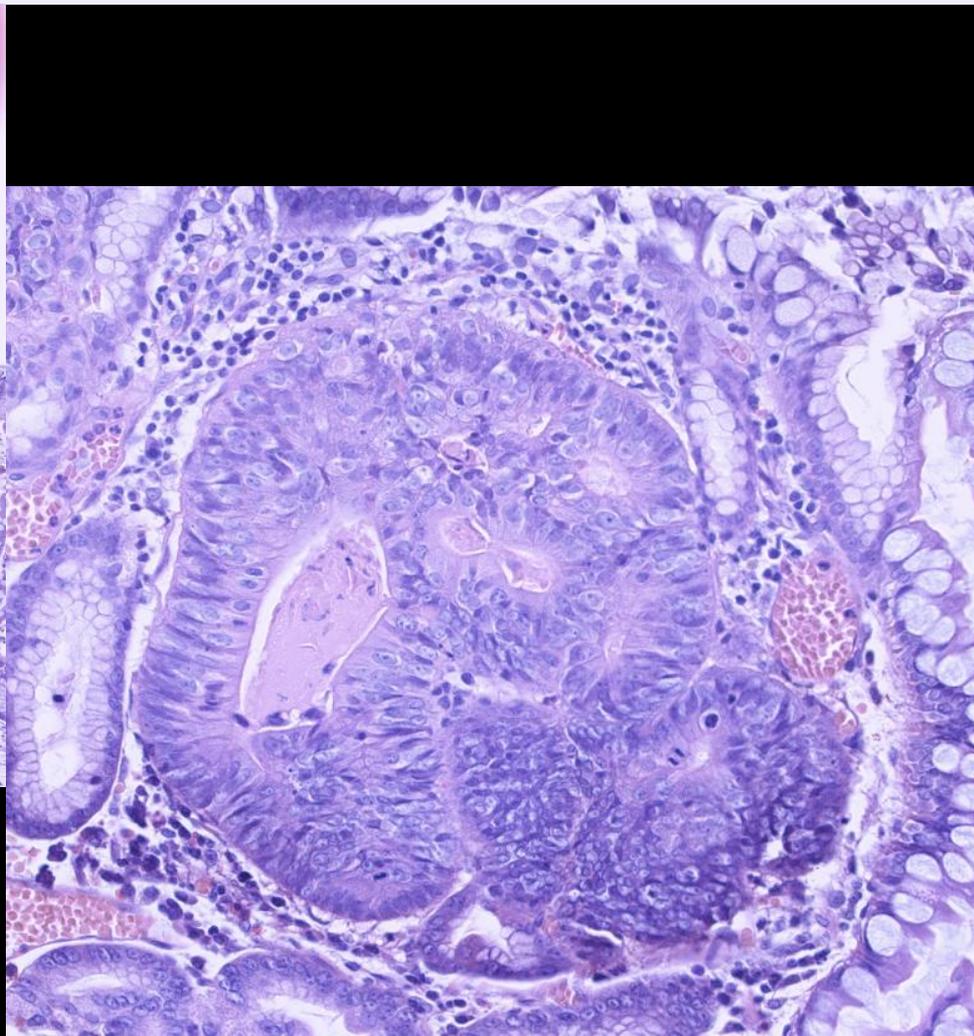
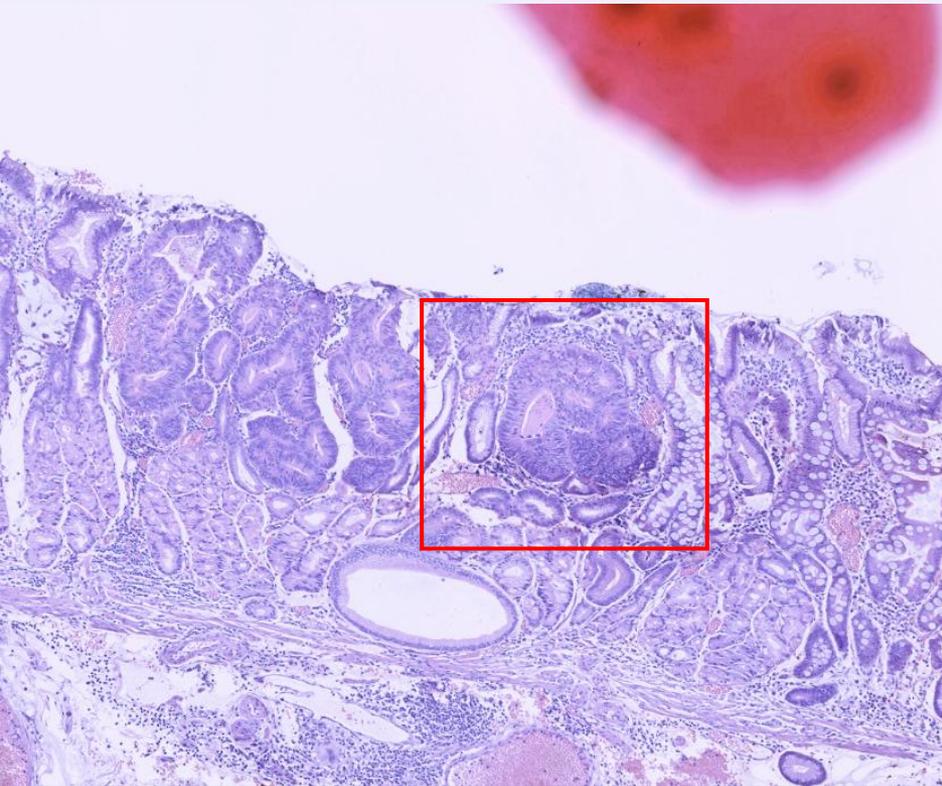
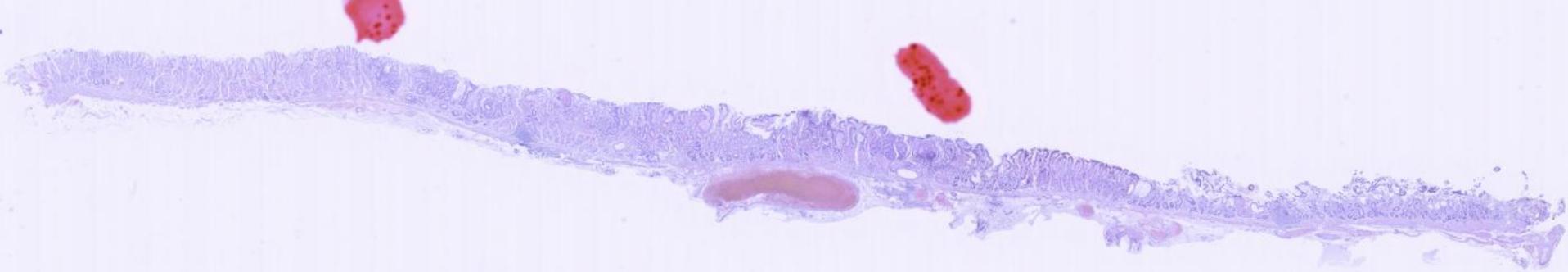


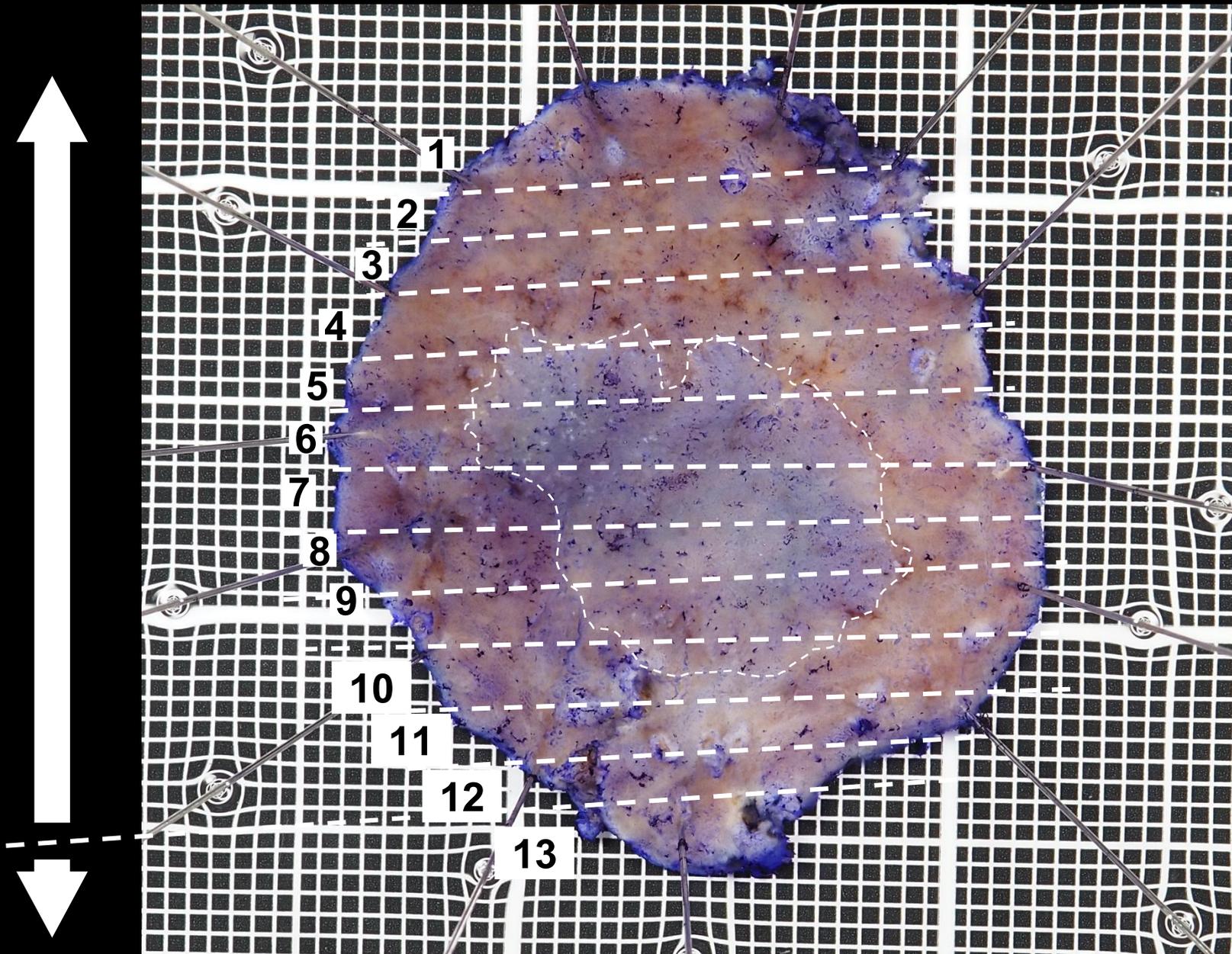
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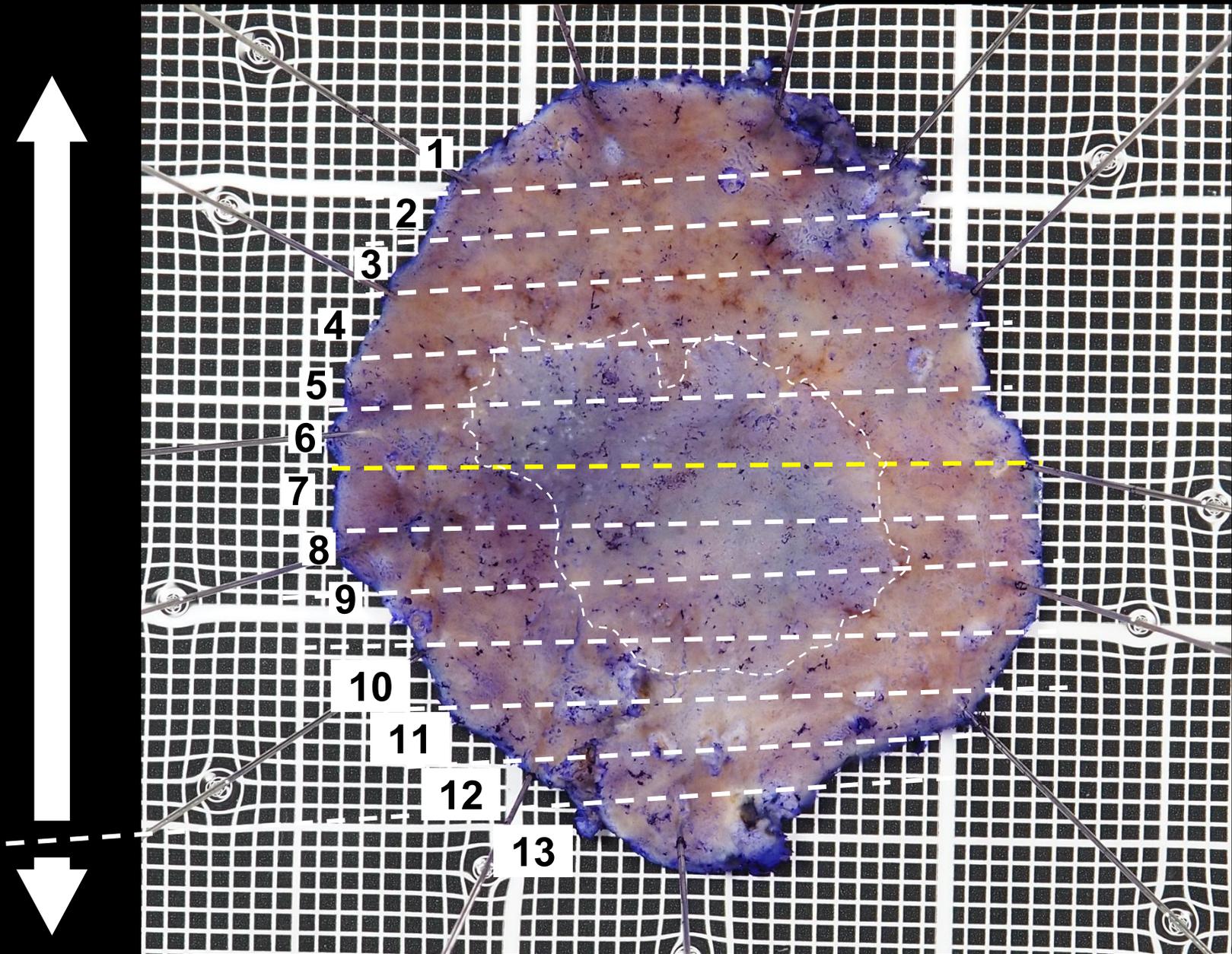


口側



肛門側





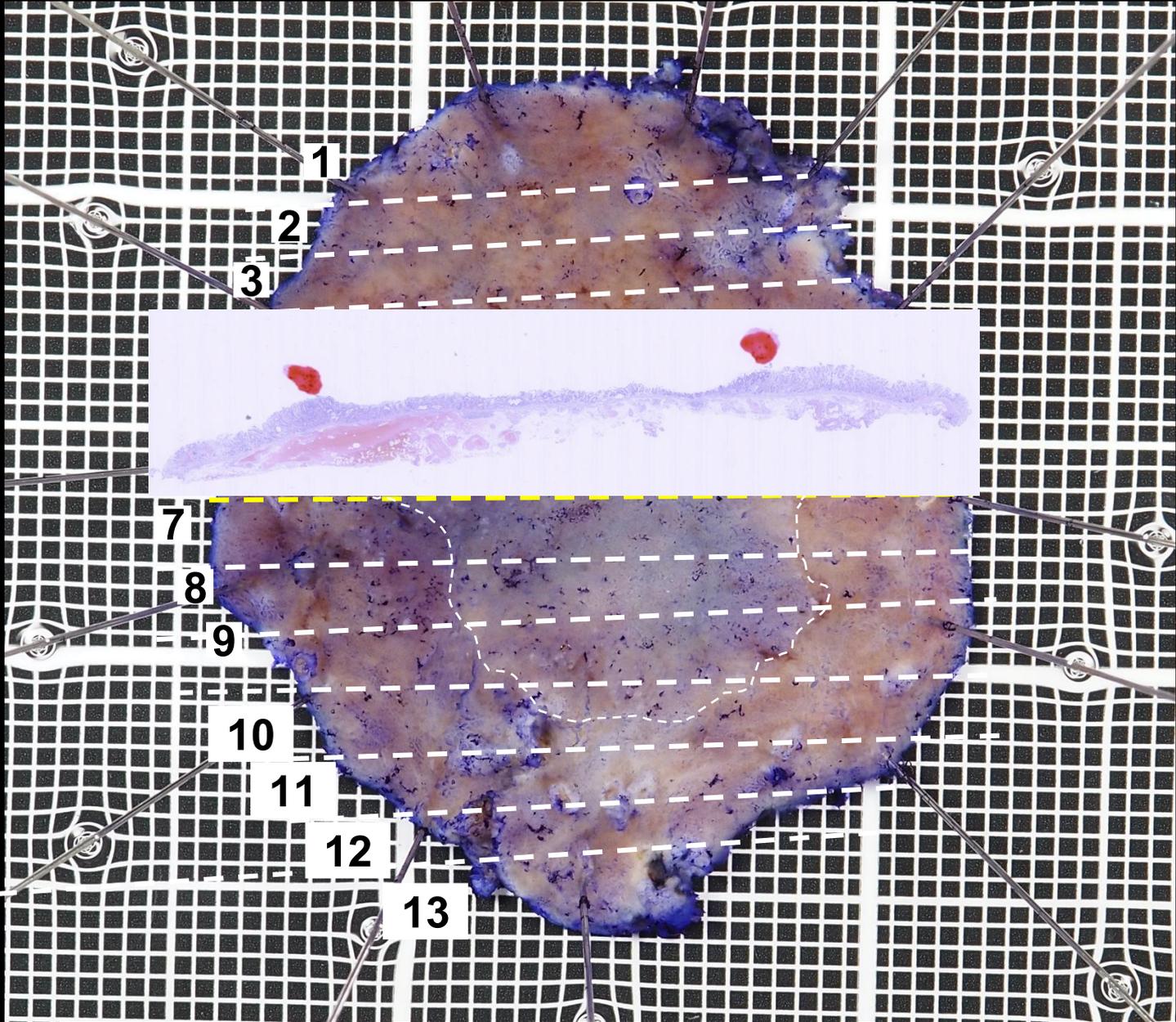
口側



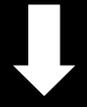
肛門側

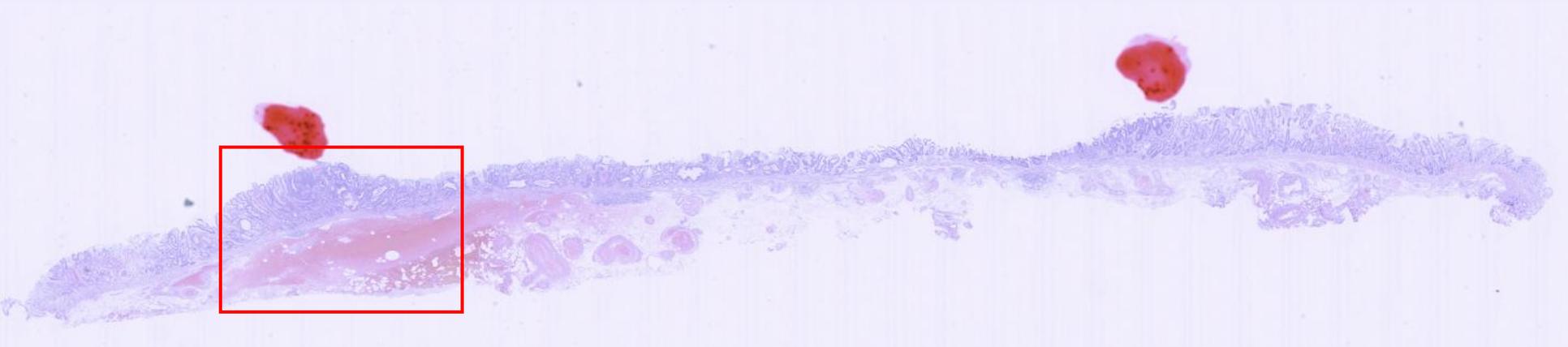


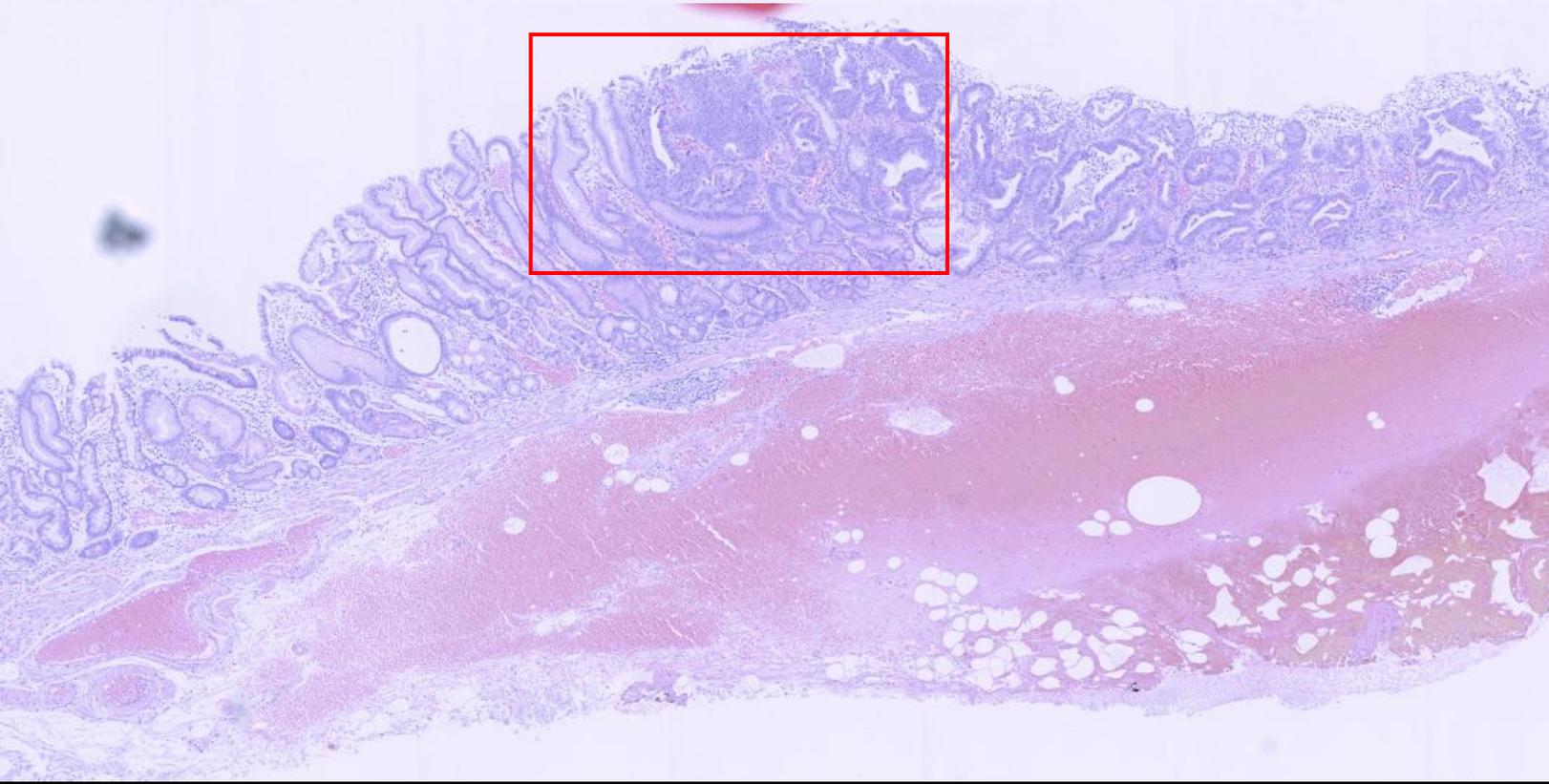
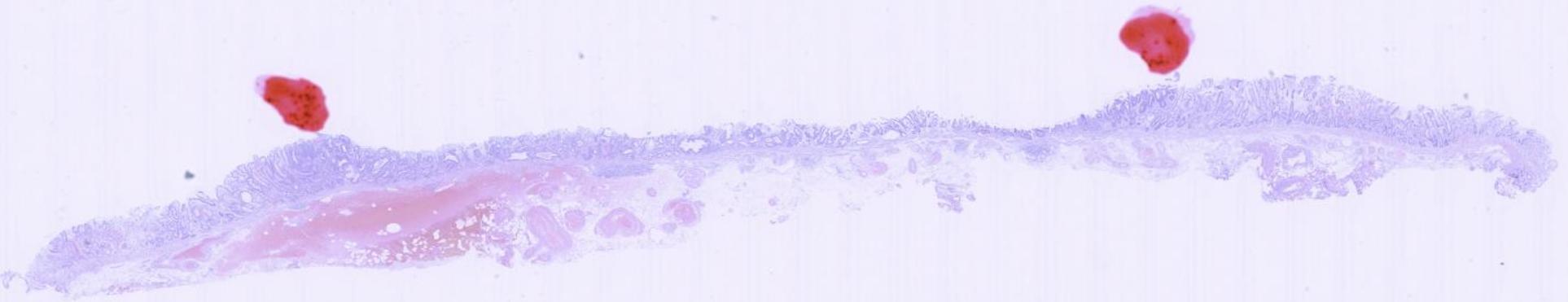
口側

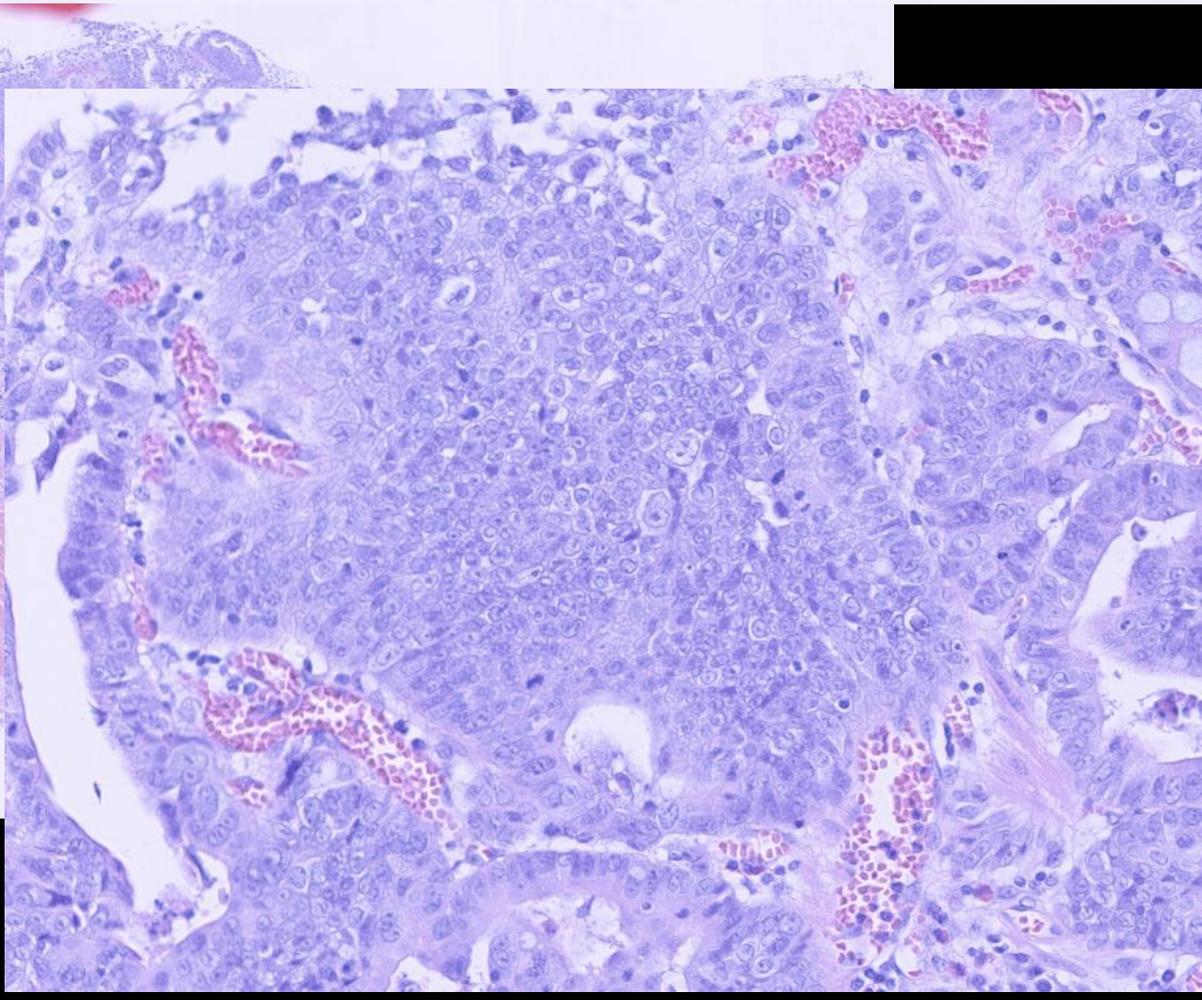
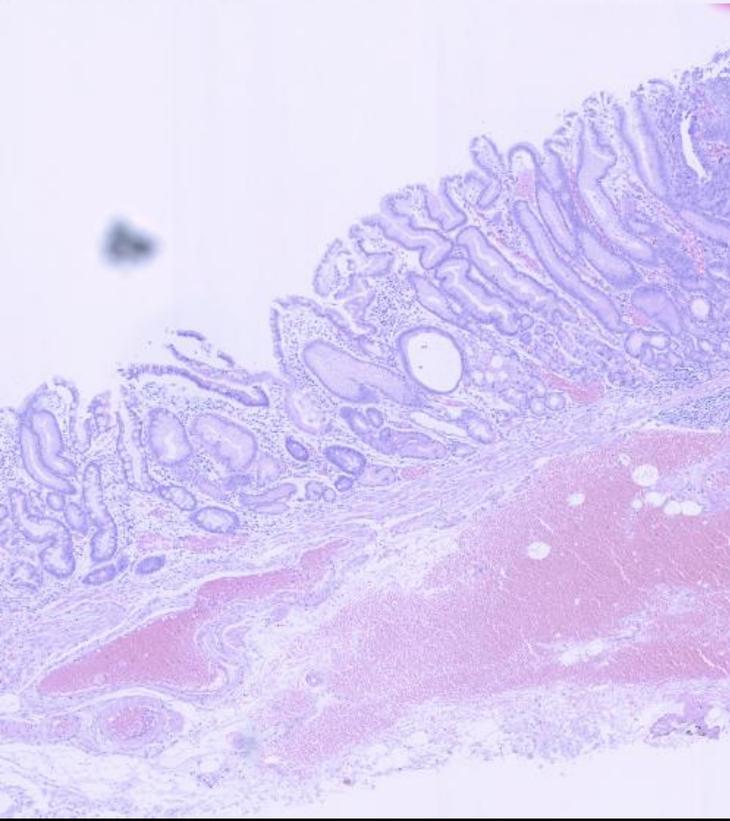
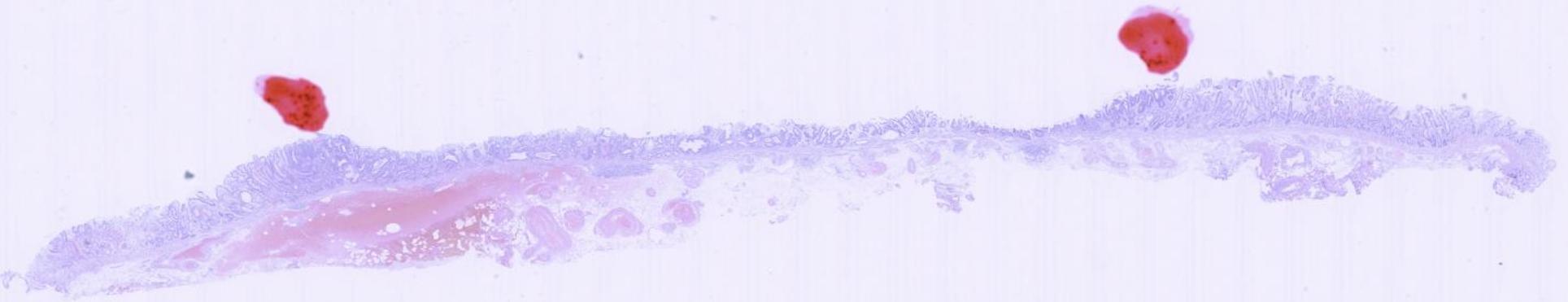


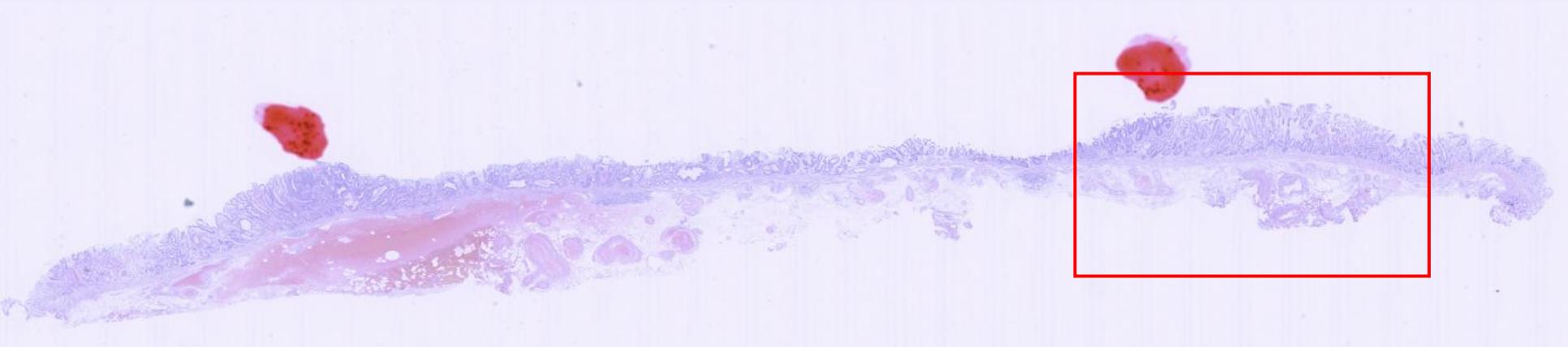
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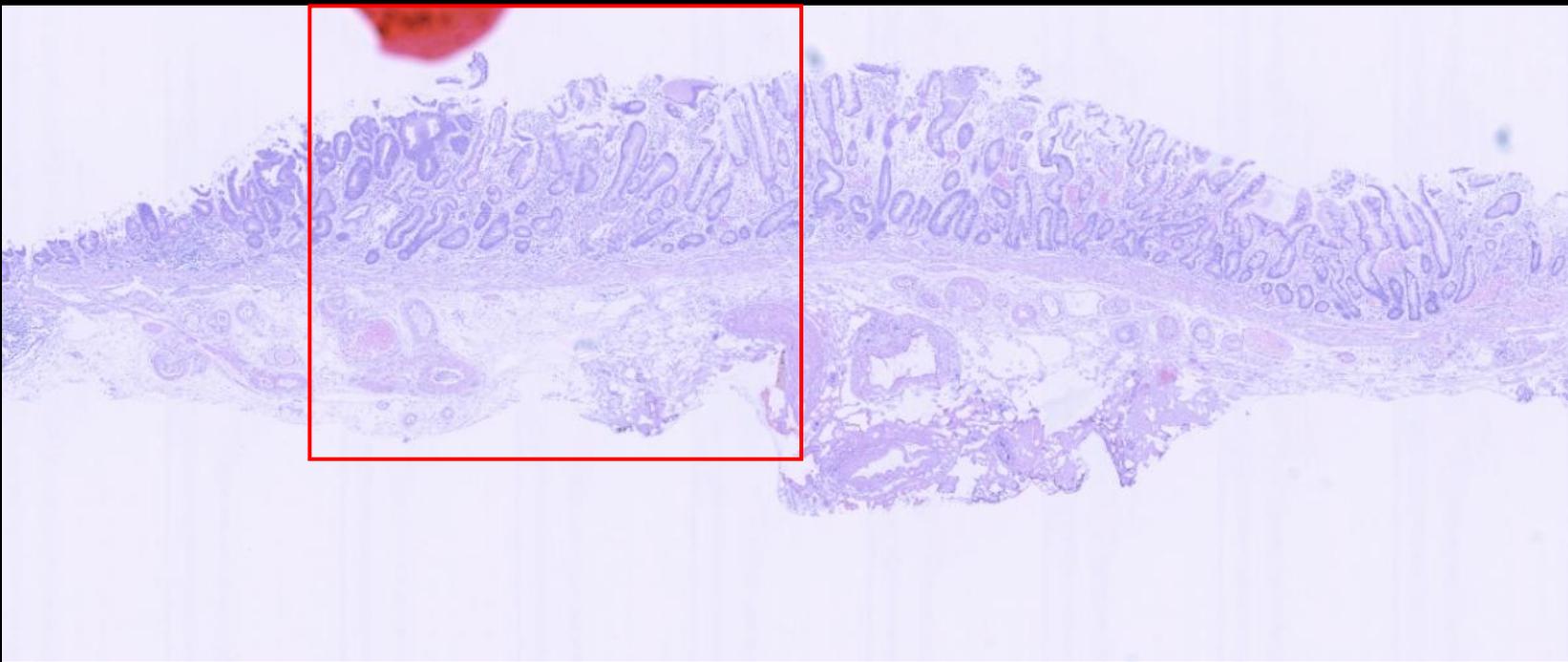
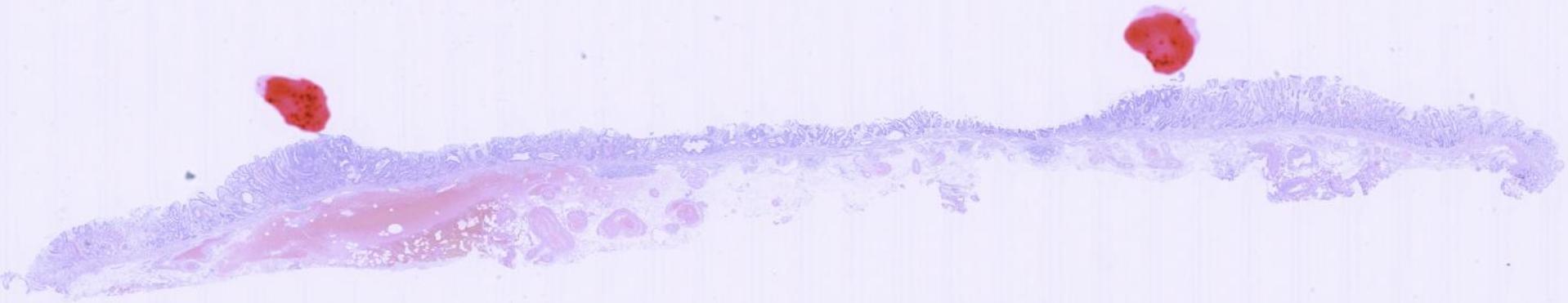


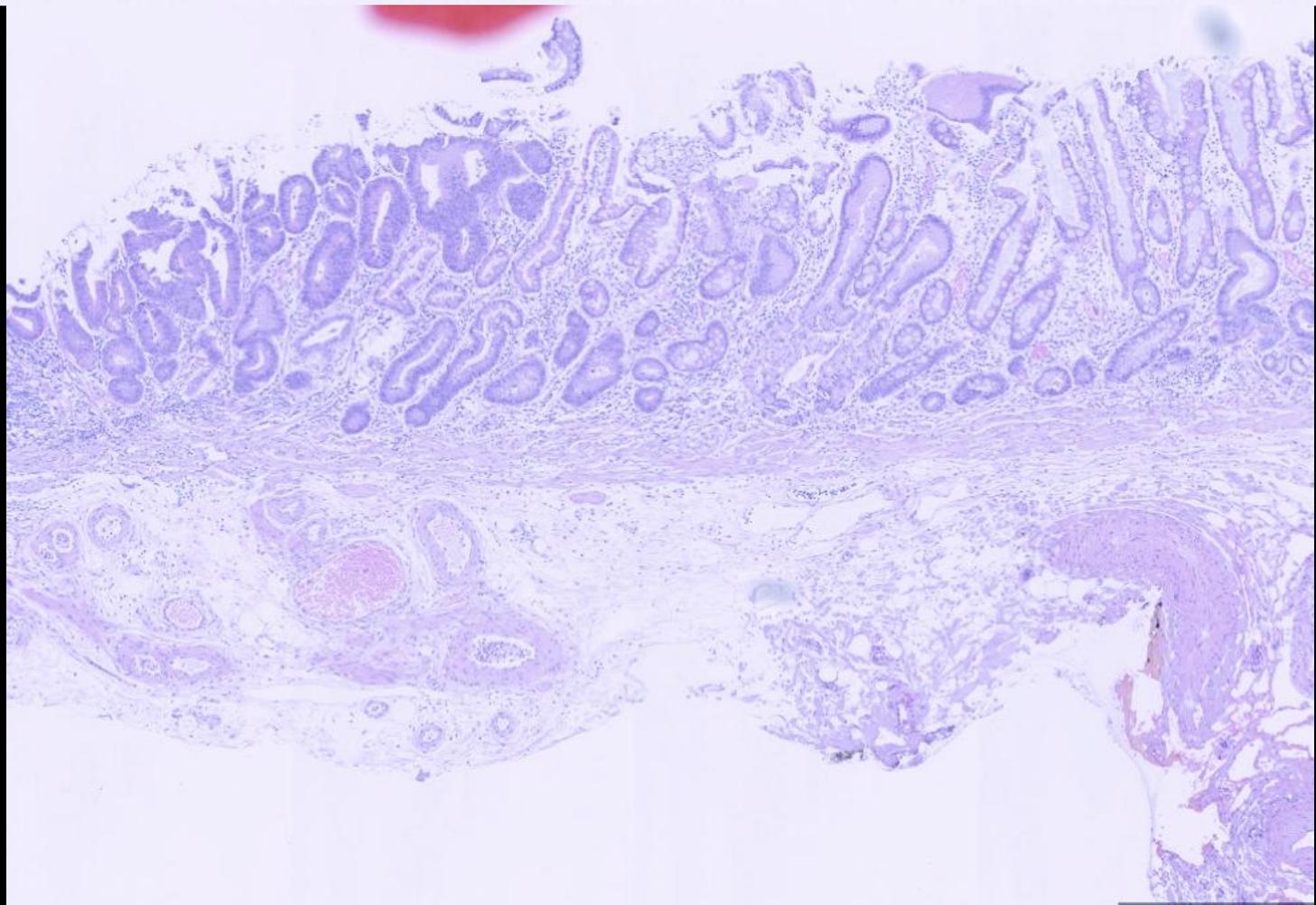
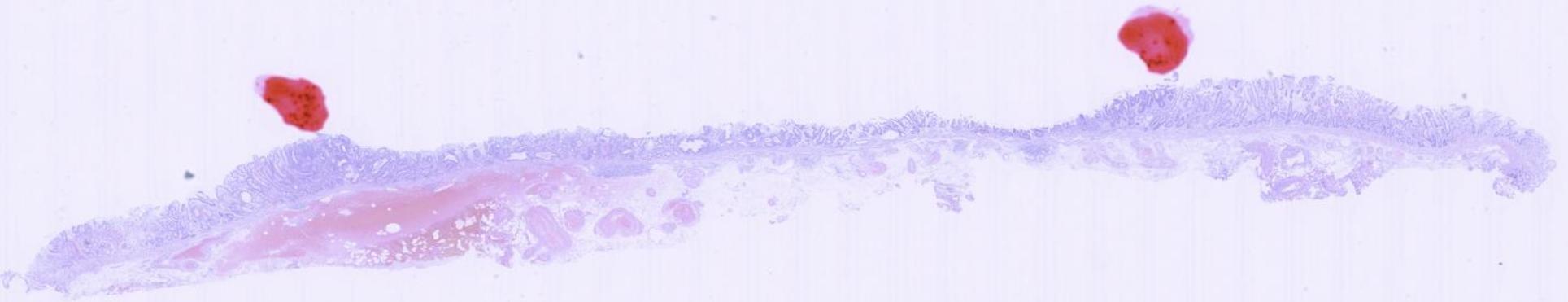


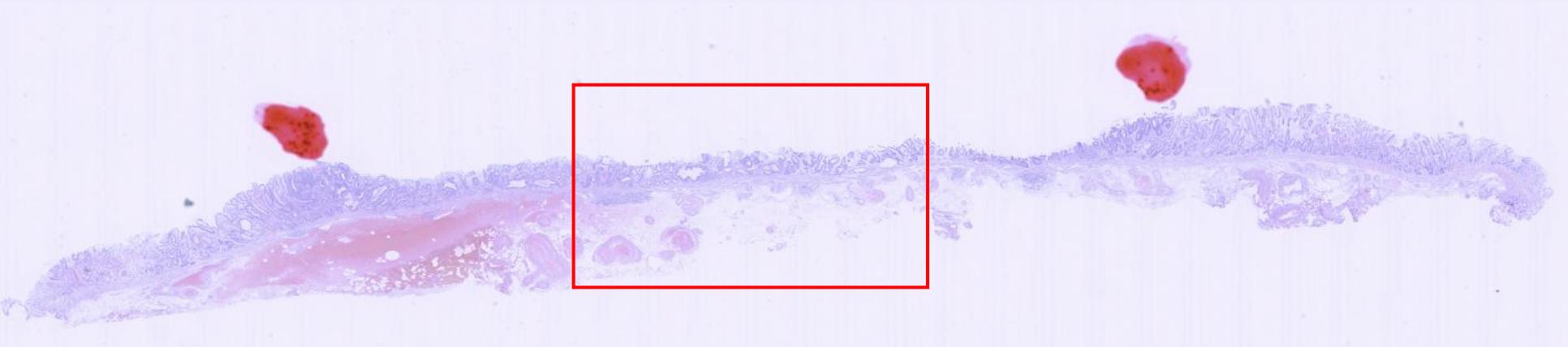


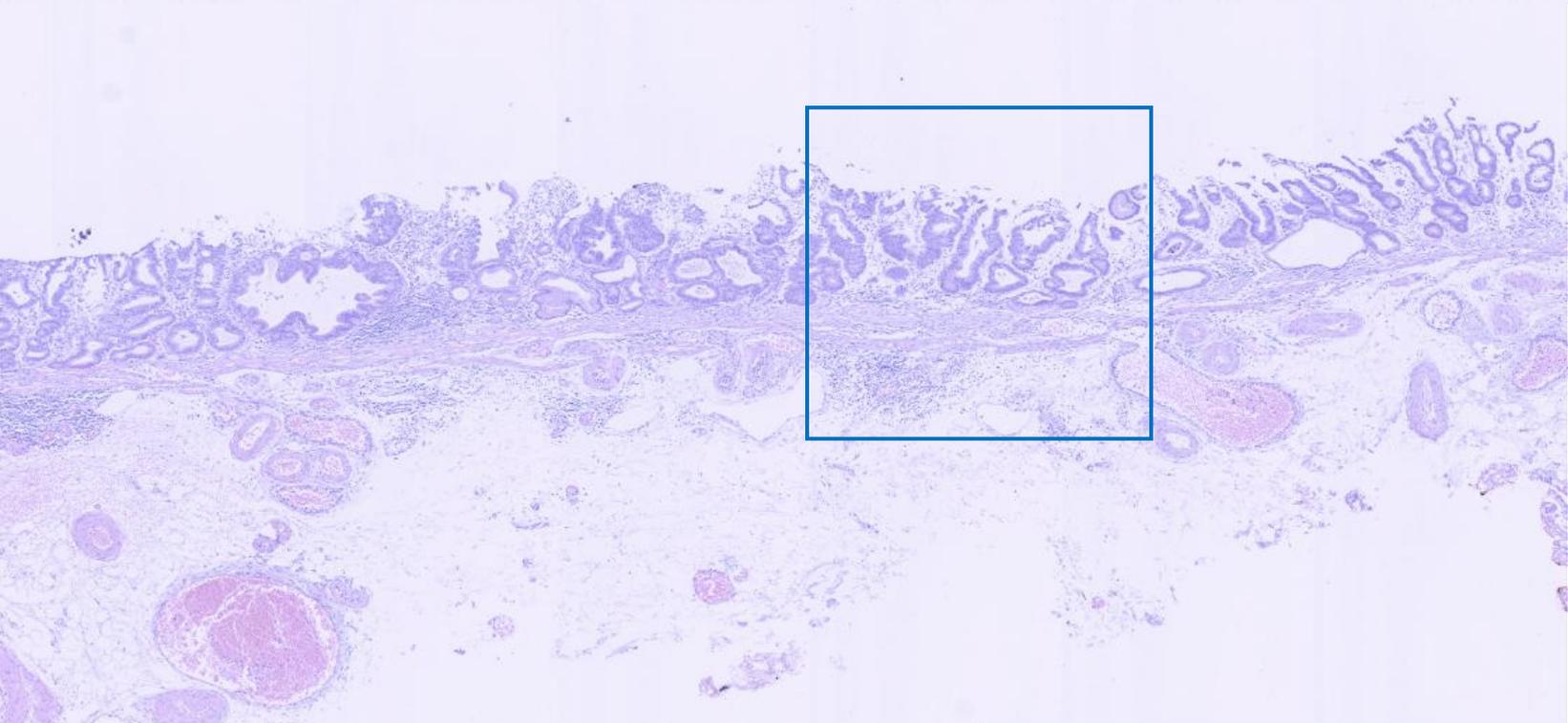
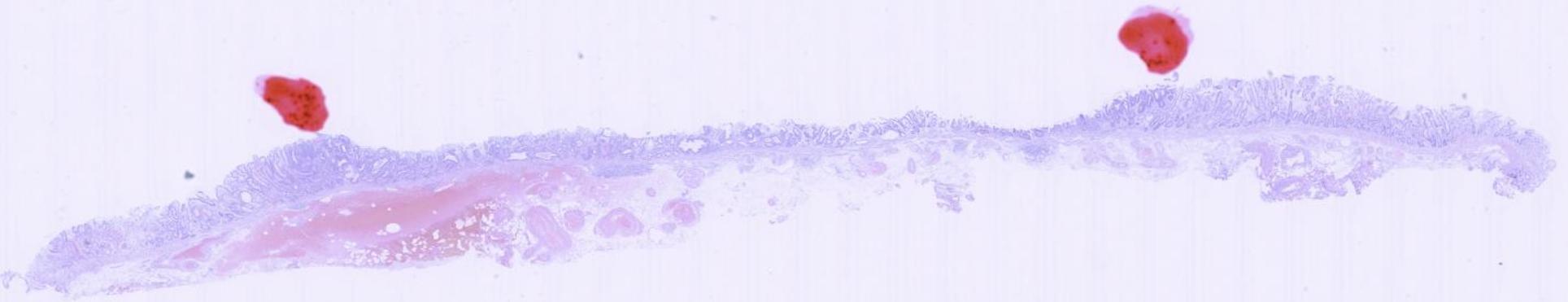


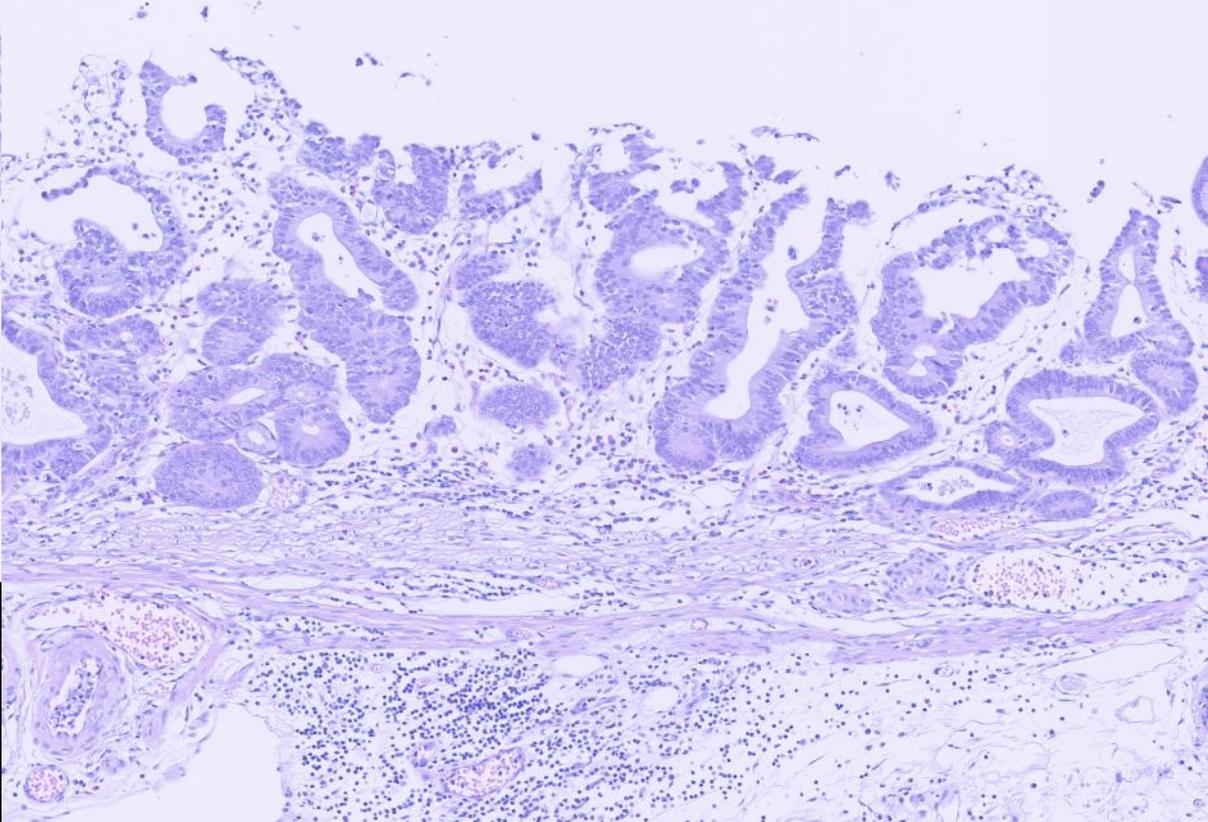
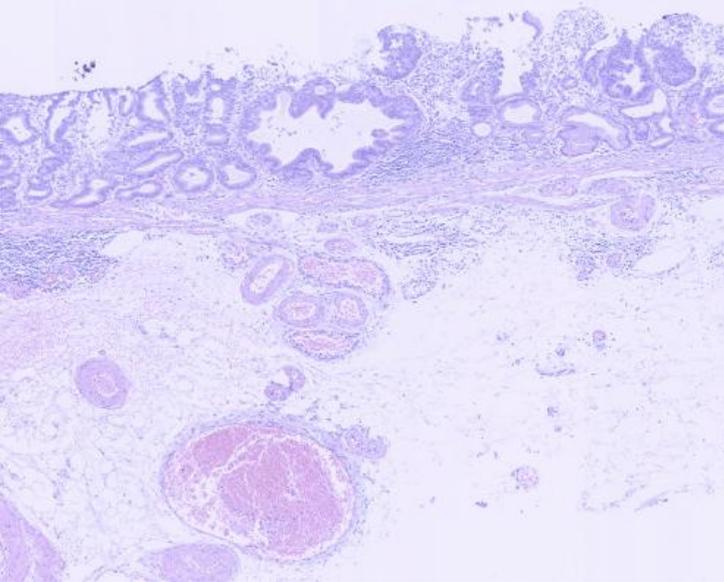
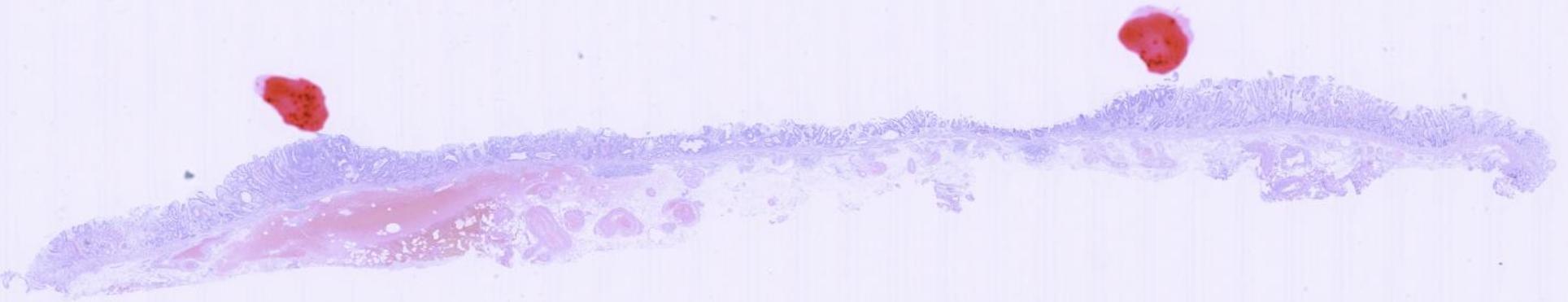


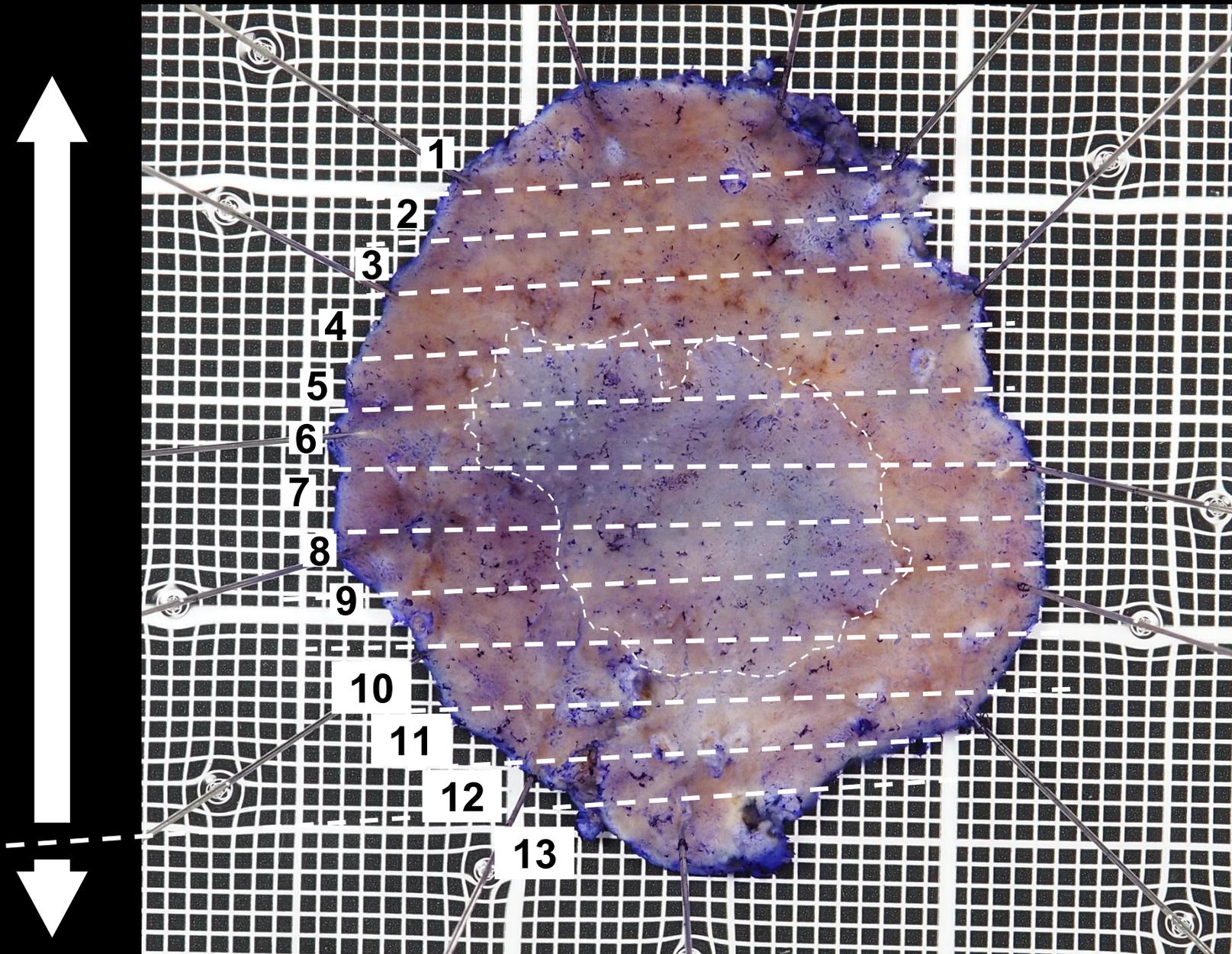










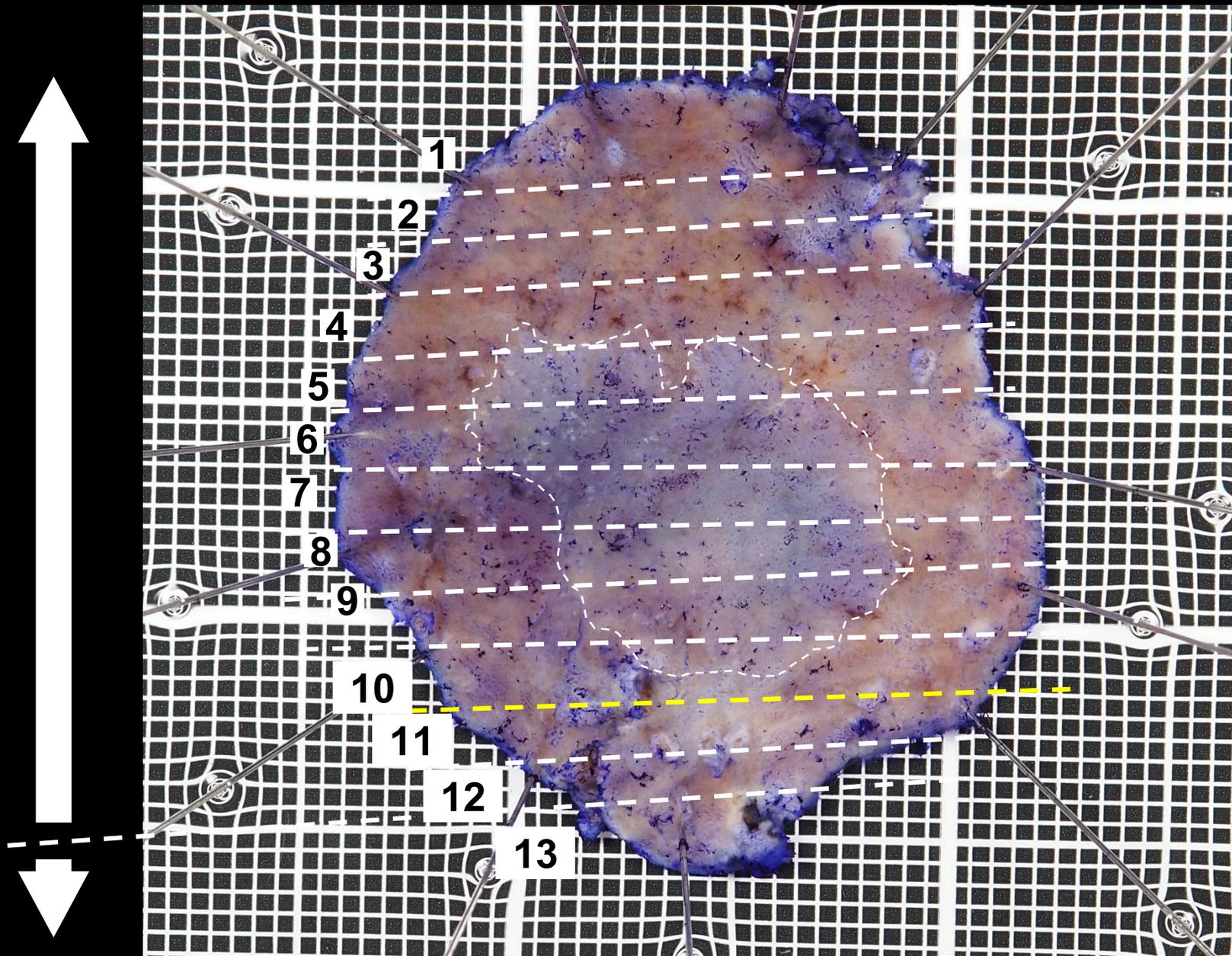


口側



肛門側



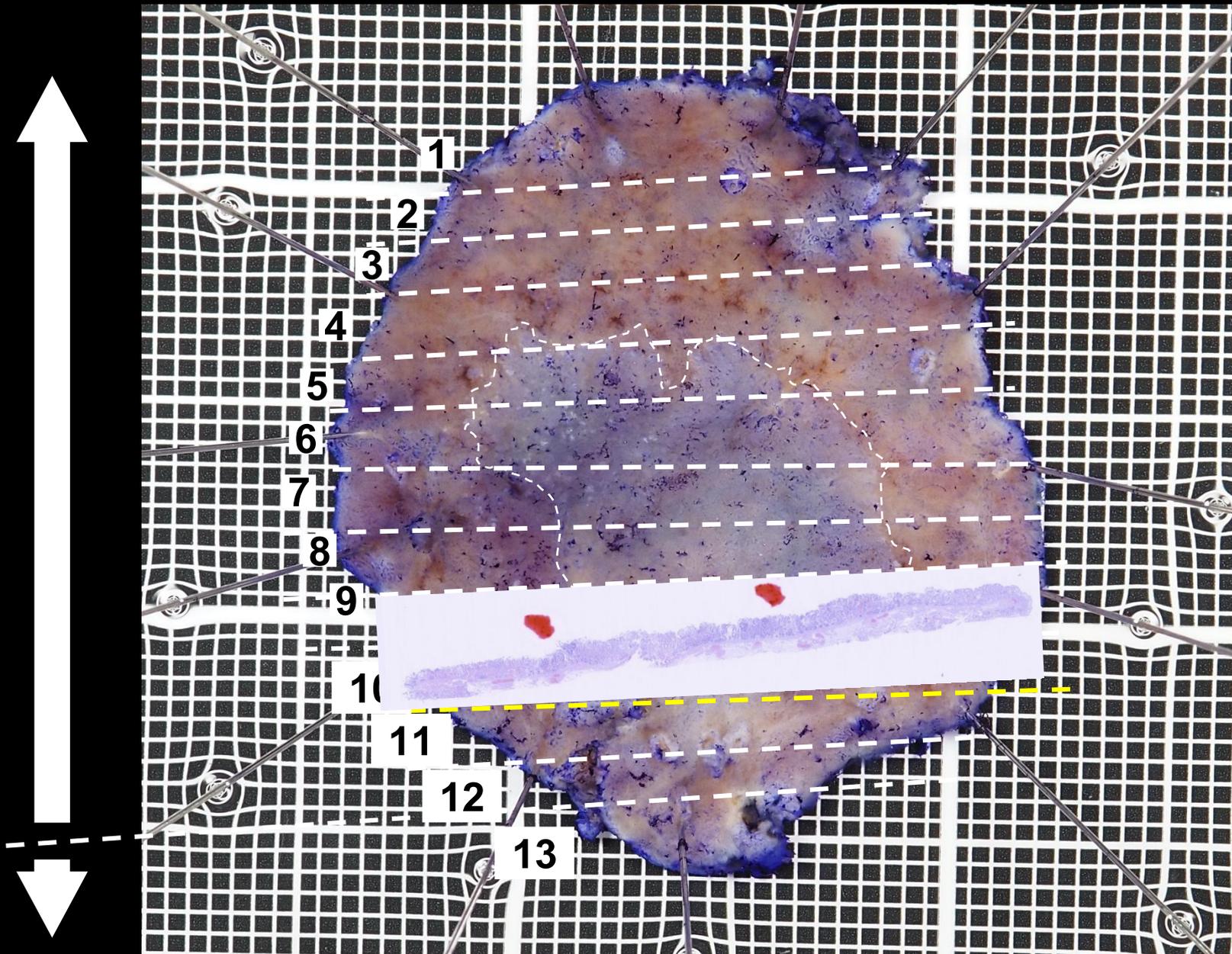


口側



肛門側



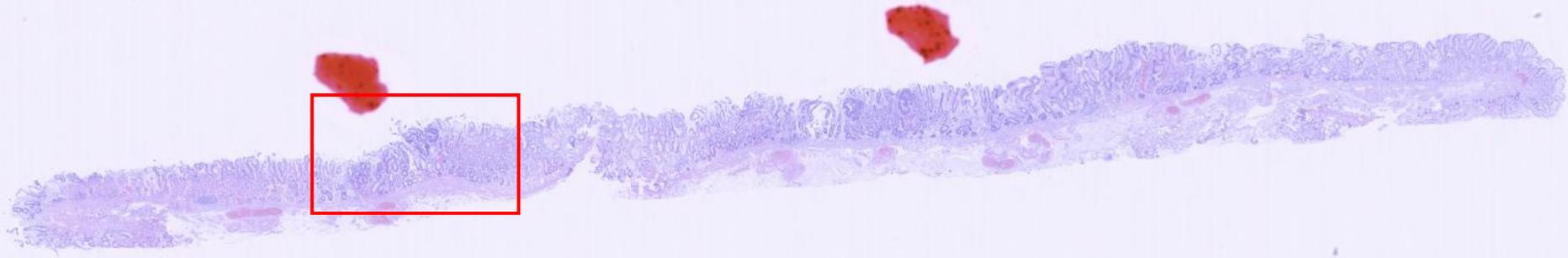


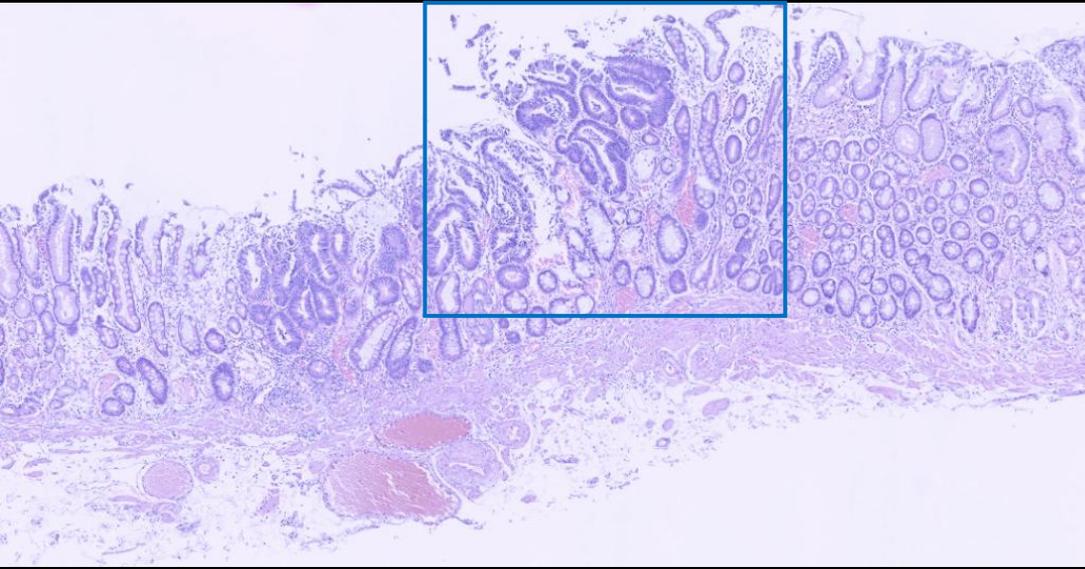
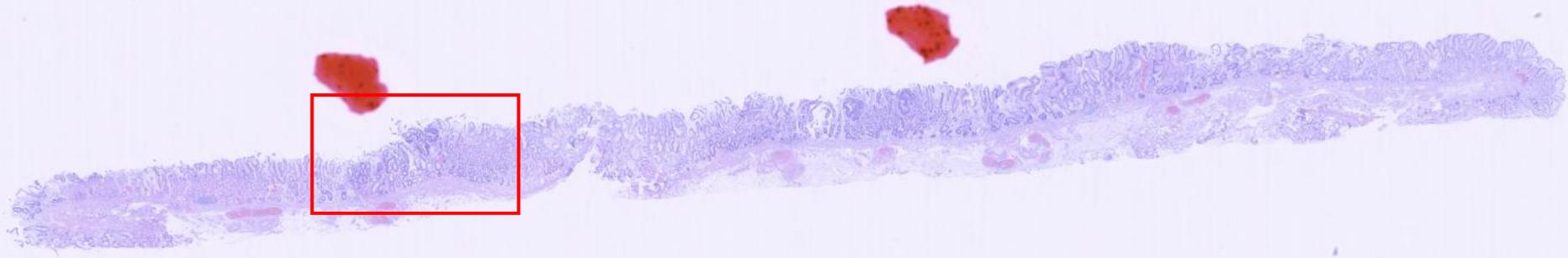
口側

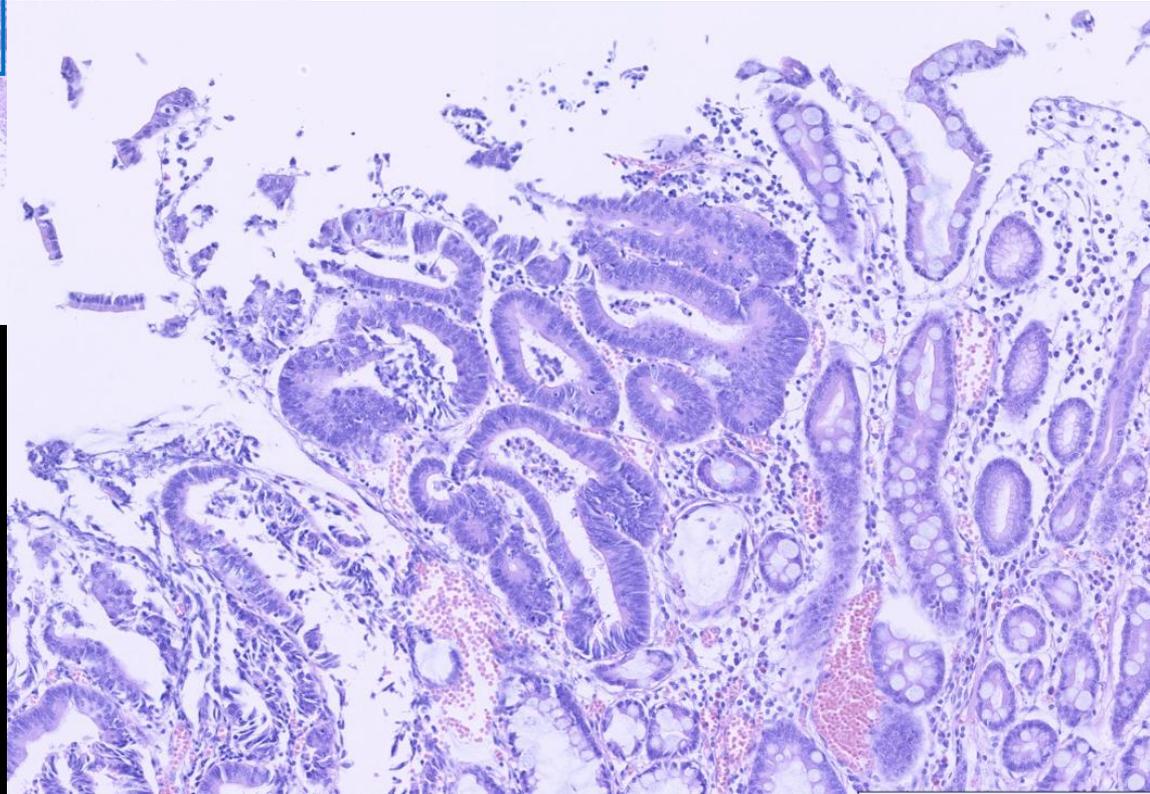
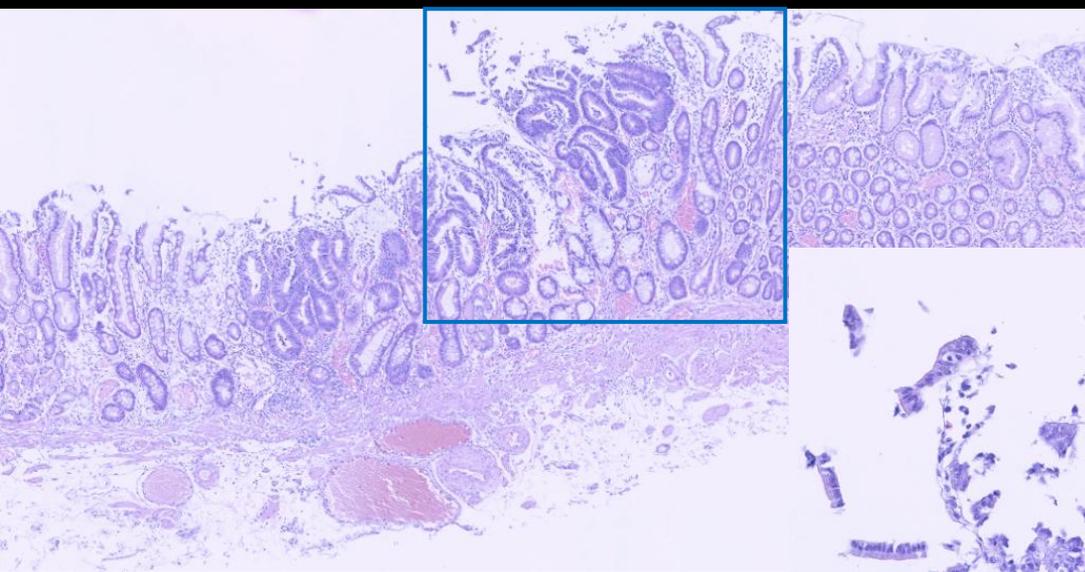
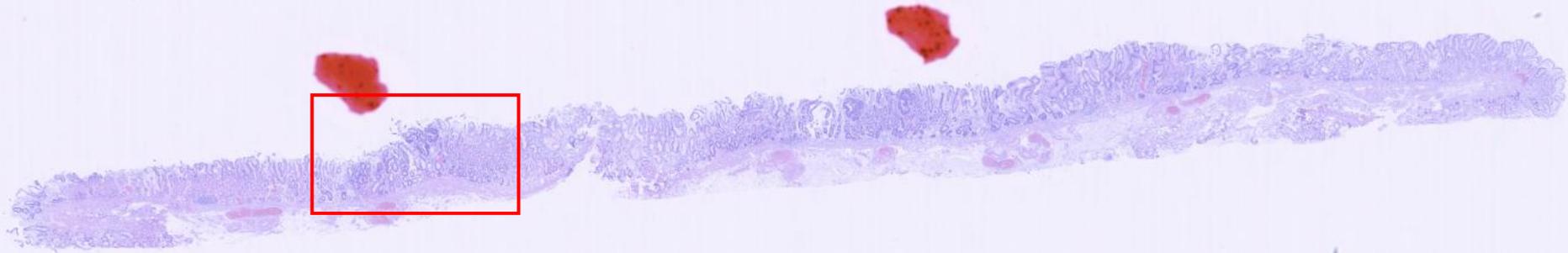


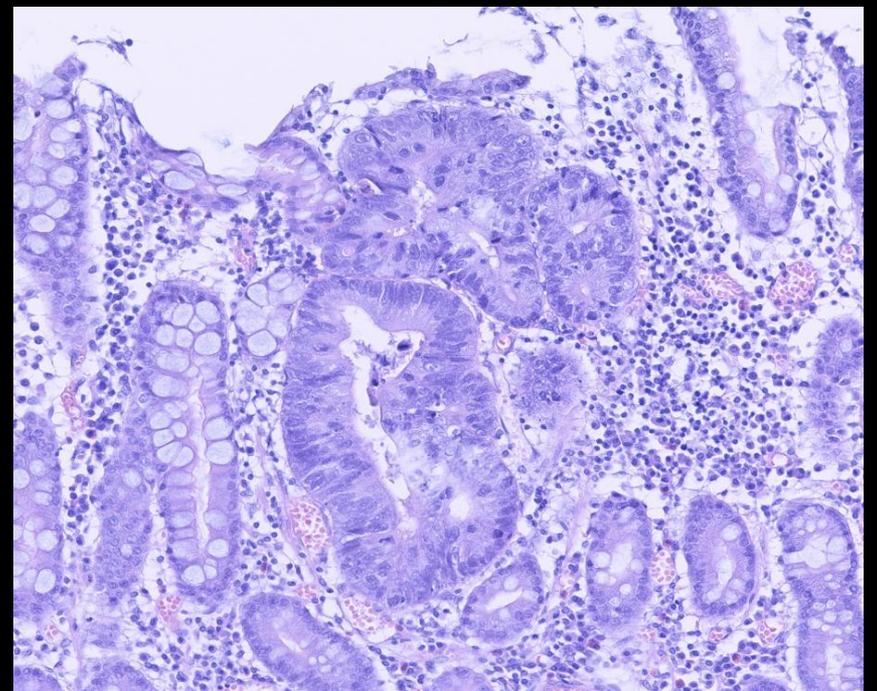
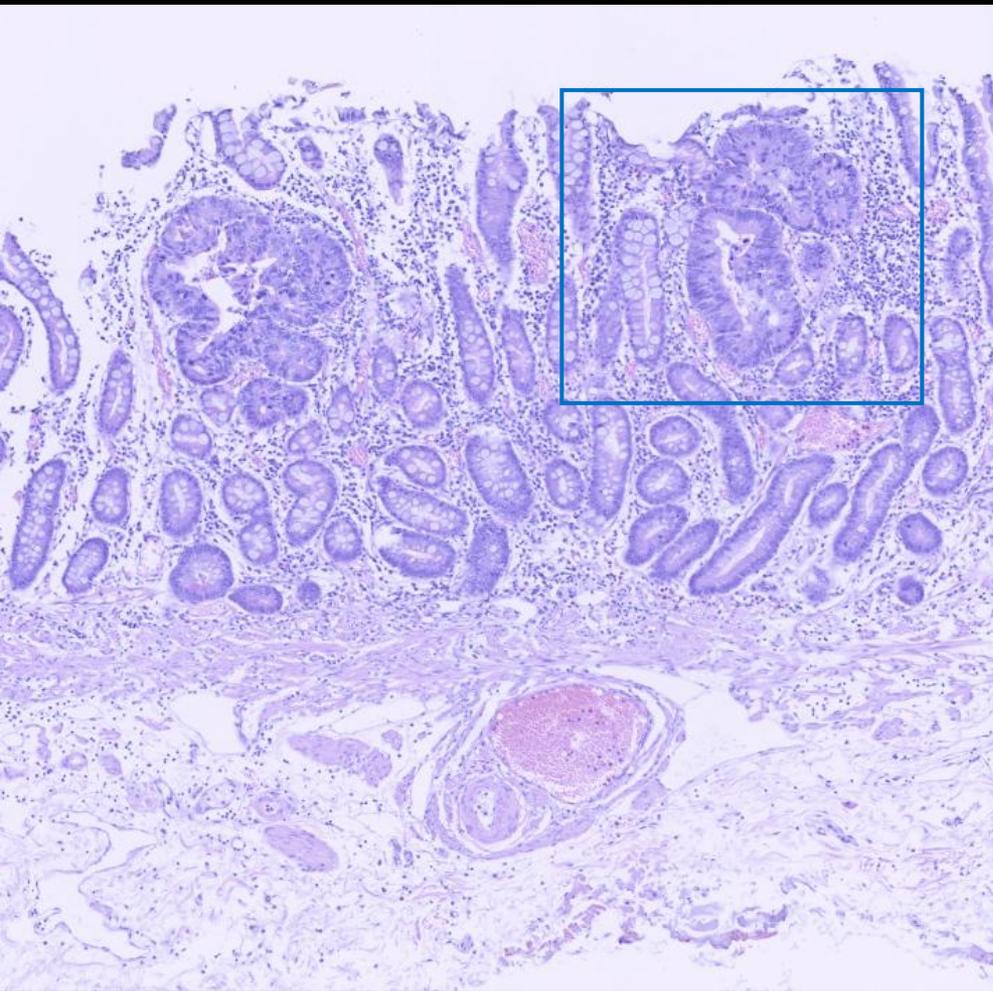
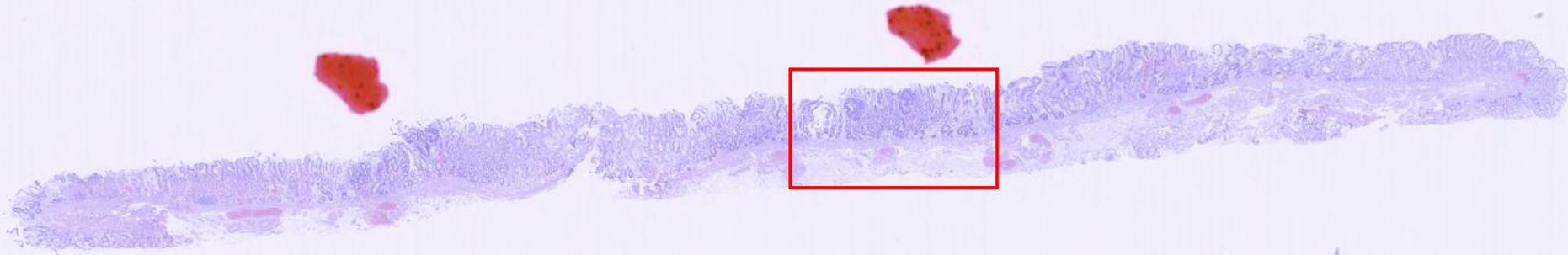
肛門側







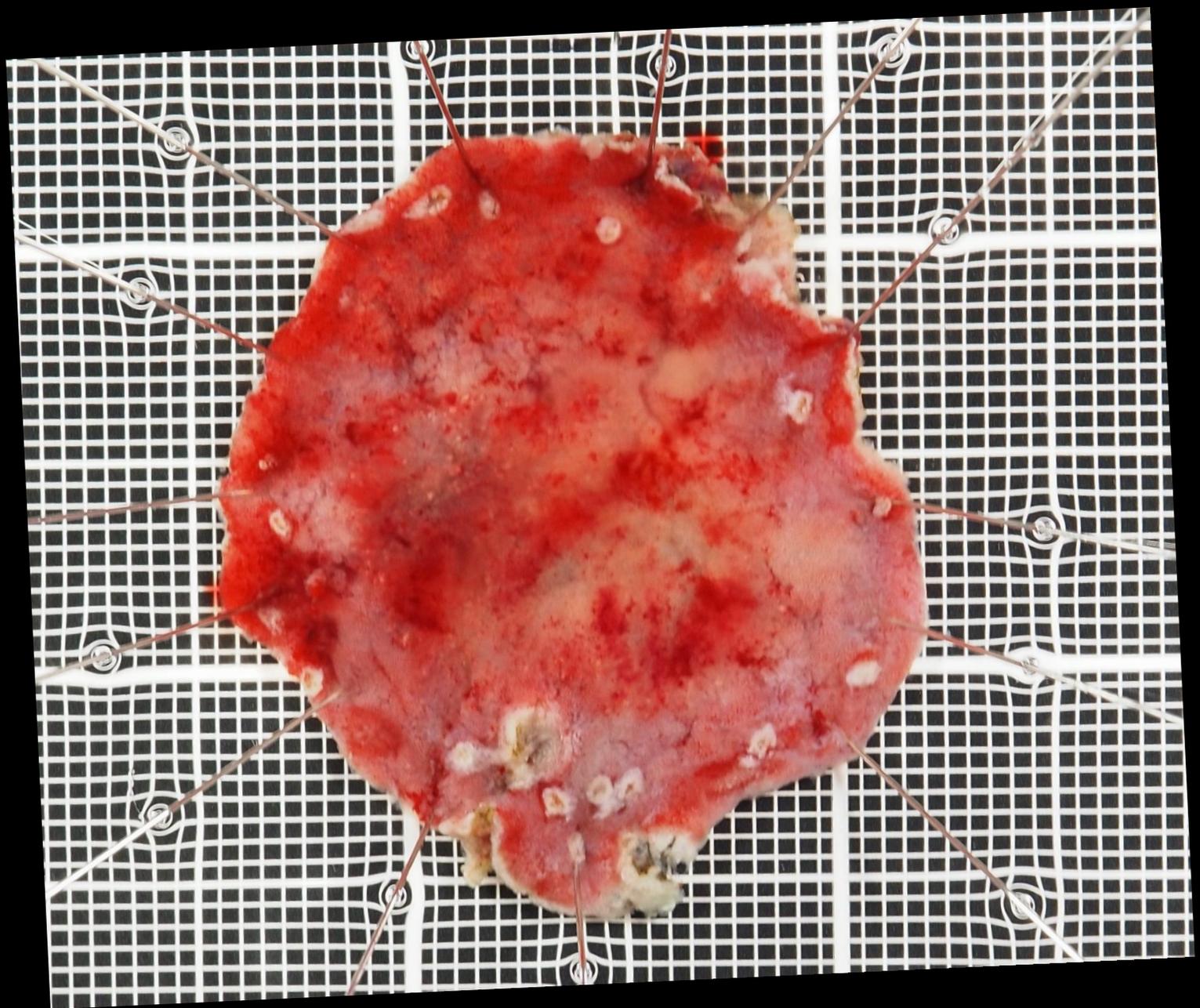




病理診断

tubular adenocarcinoma,
well differentiated(tub1>tub2),
T1a, M, early, UL0, Ly0, V0, HM0, VM0.
e-Cure A

Mapping

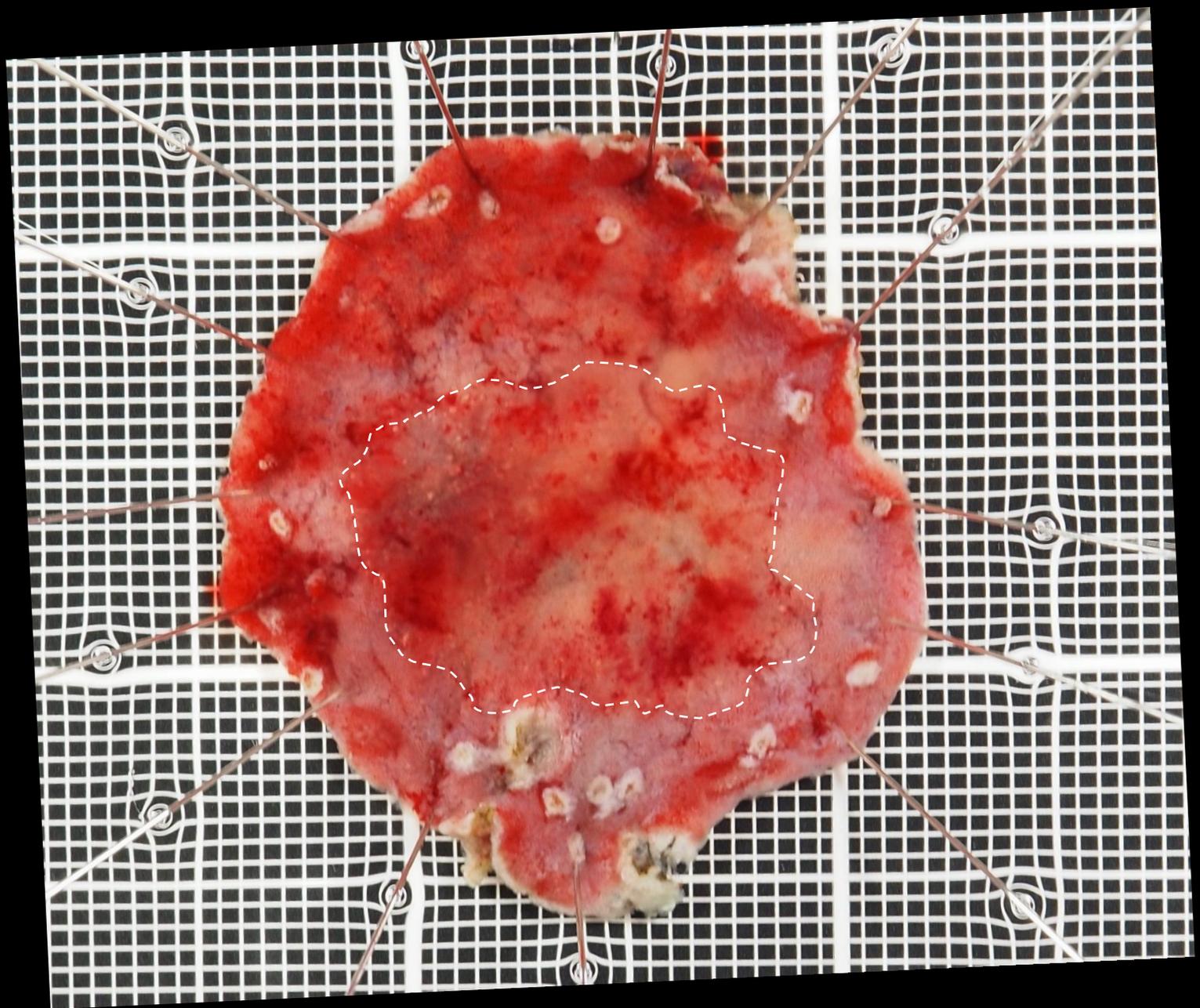


口側



肛門側



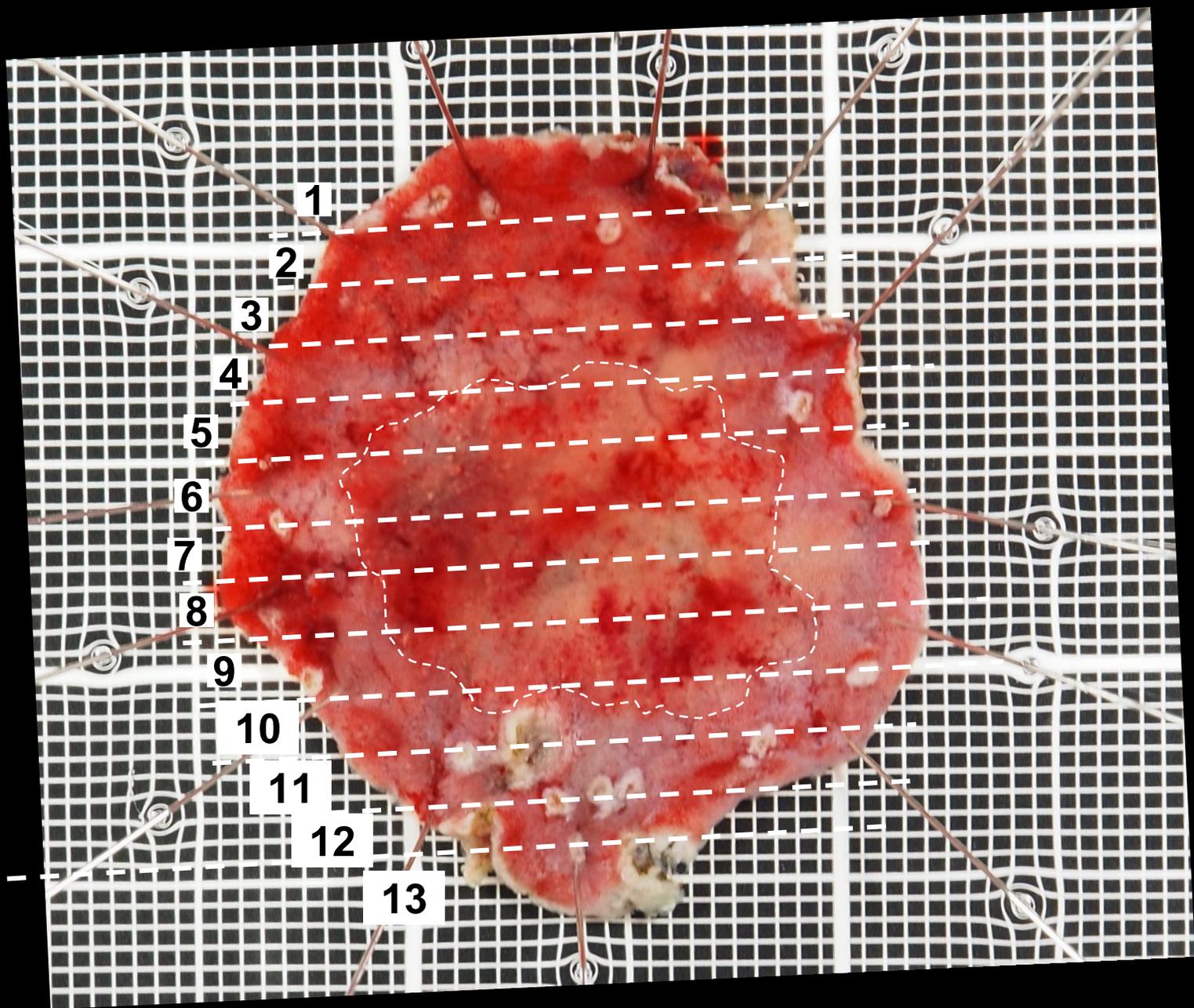
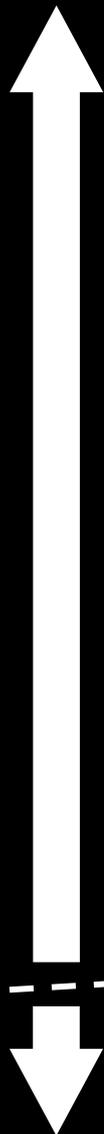


口側



肛門側



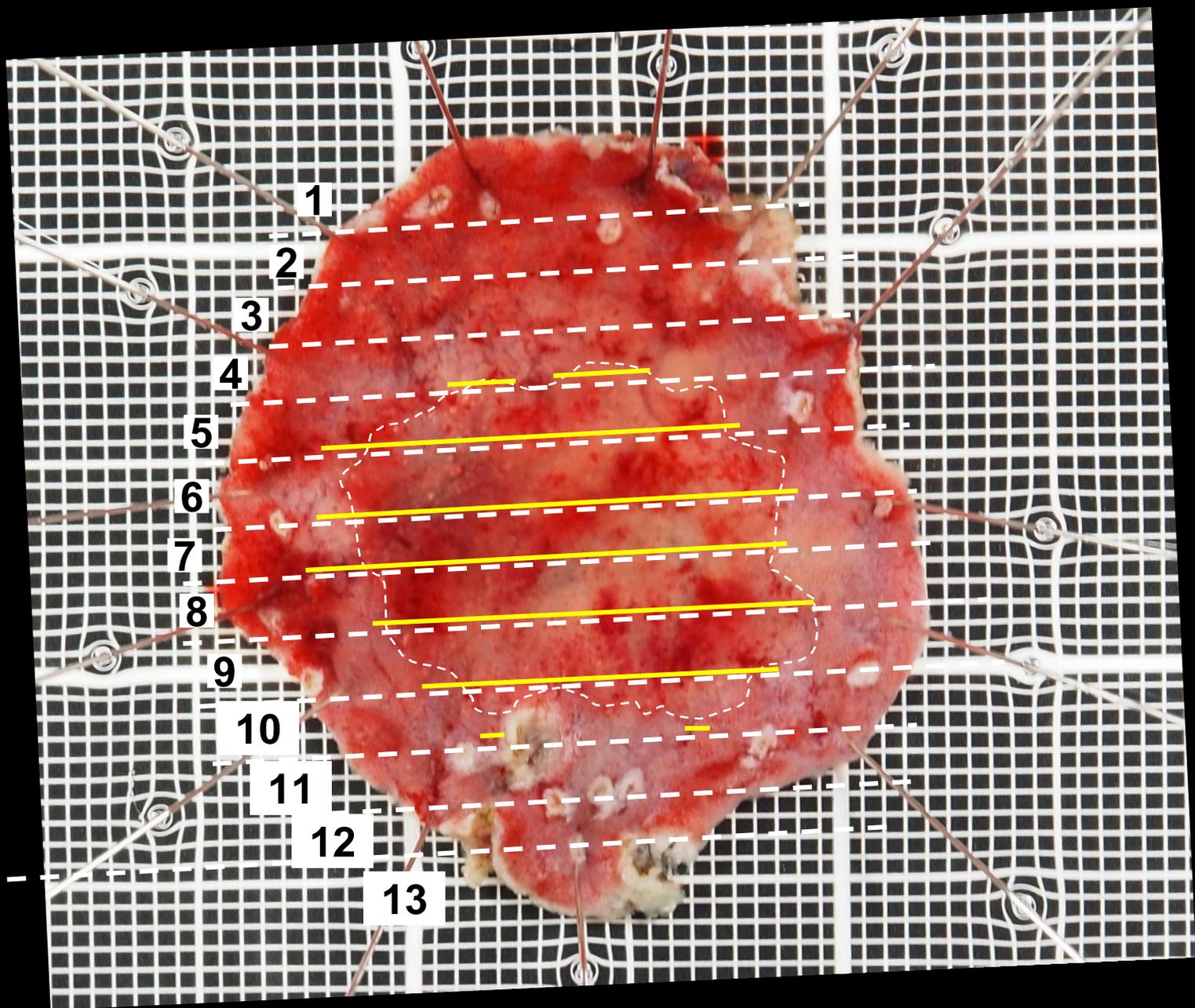
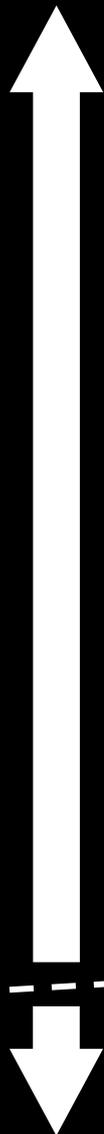


口側



肛門側



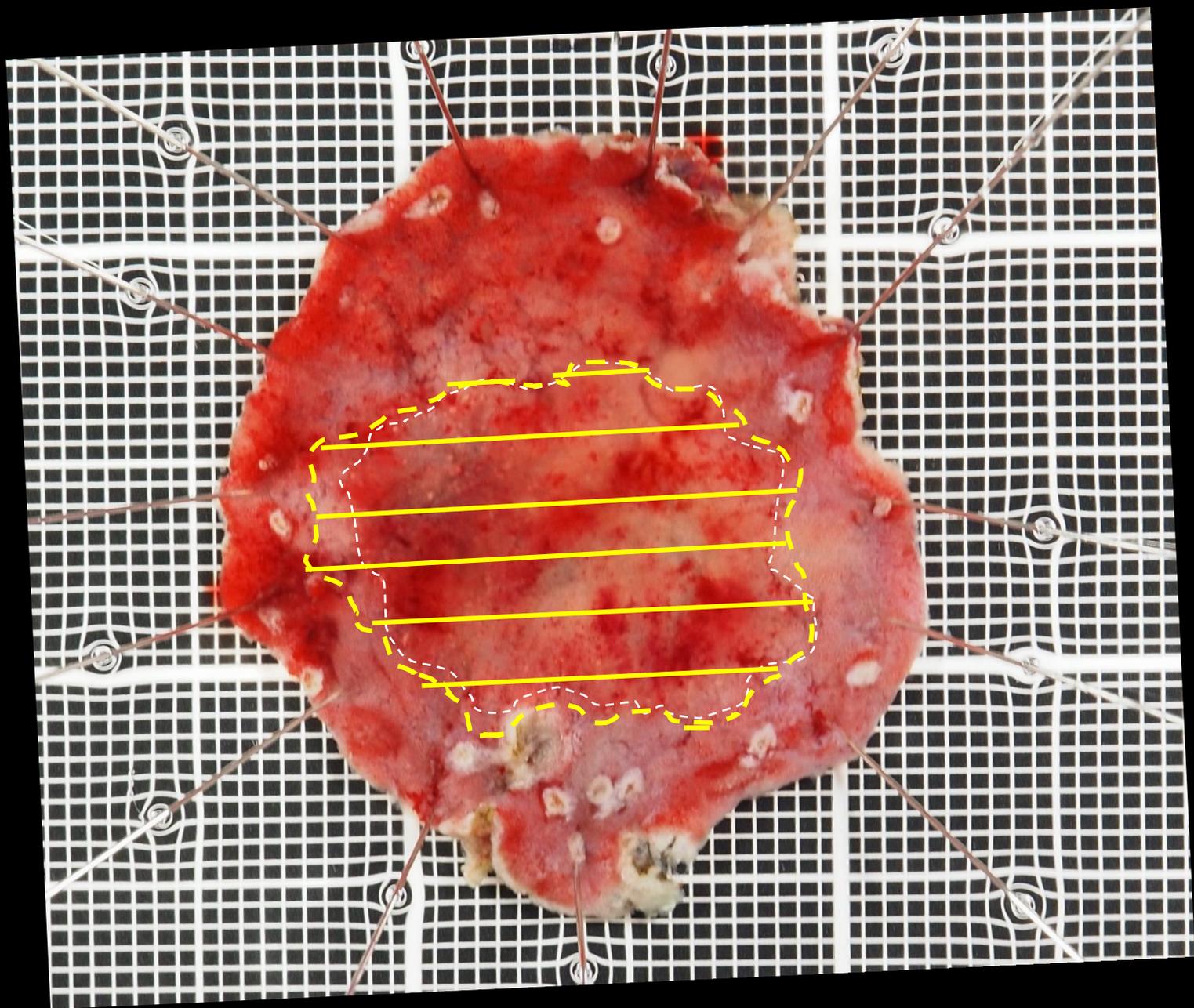


口側



肛門側

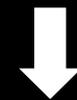


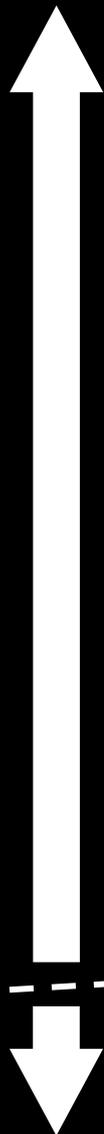


口側



肛門側

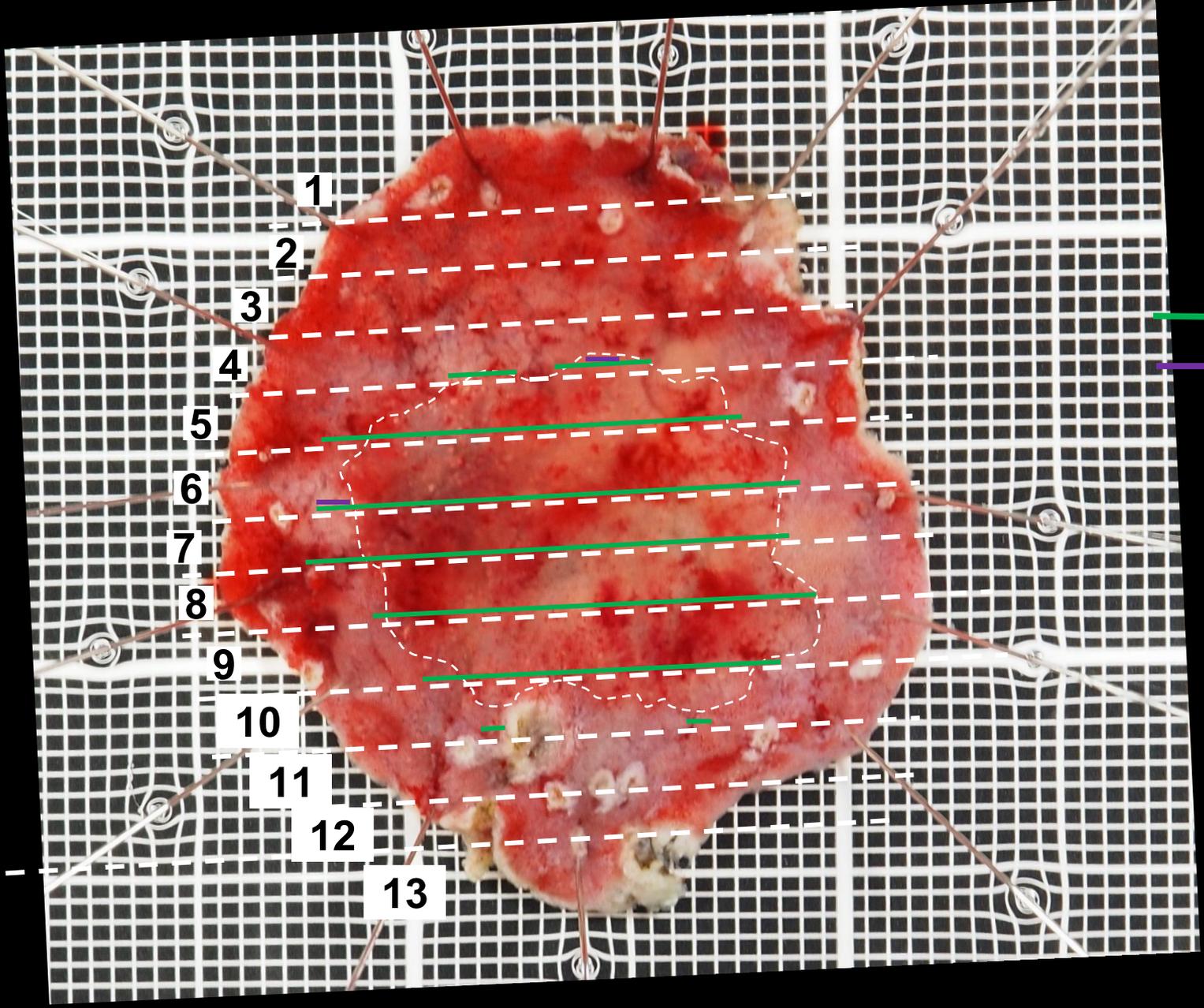
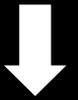




口側



肛門側



1

2

3

4

5

6

7

8

9

10

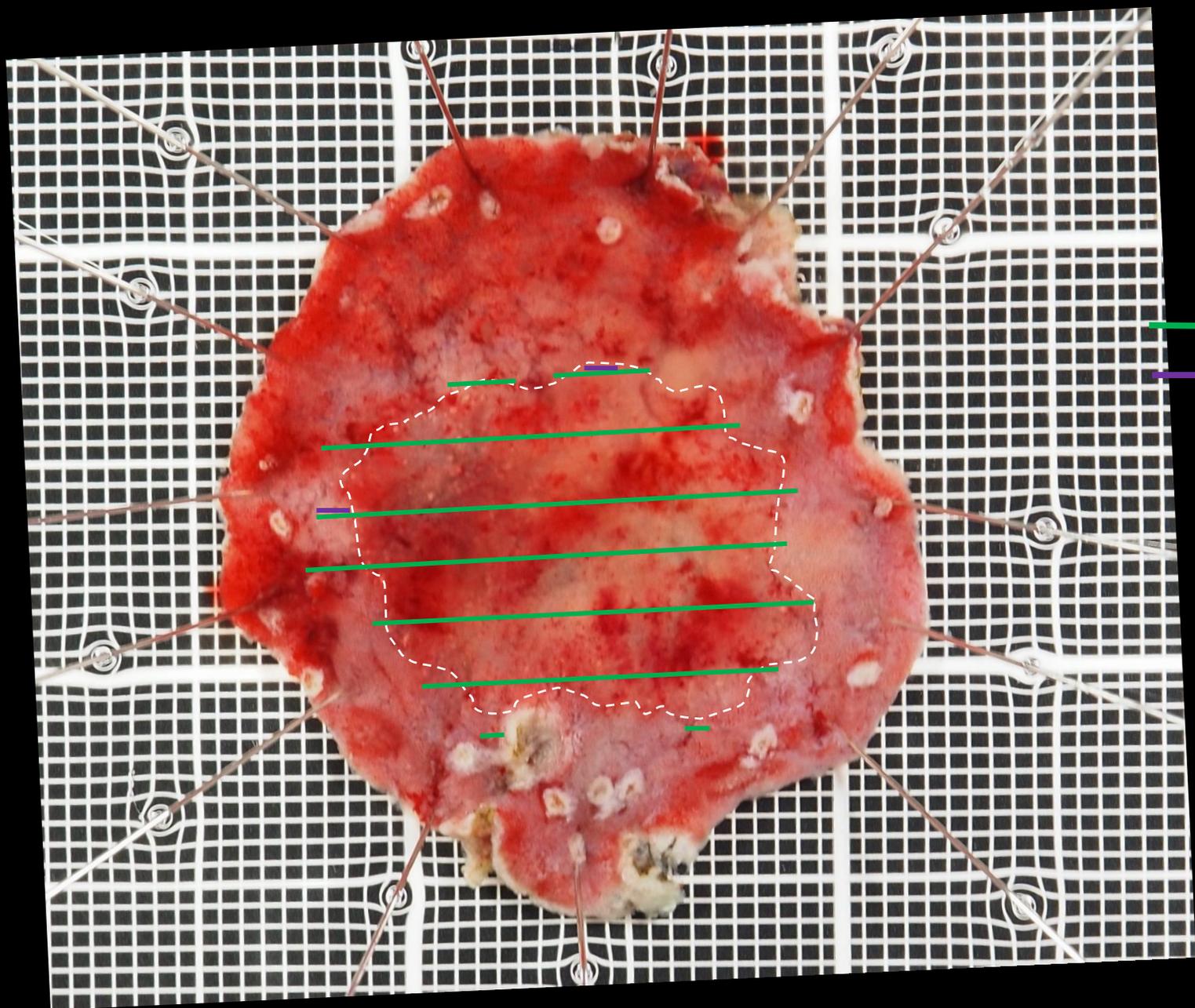
11

12

13

tub1

tub2



口側



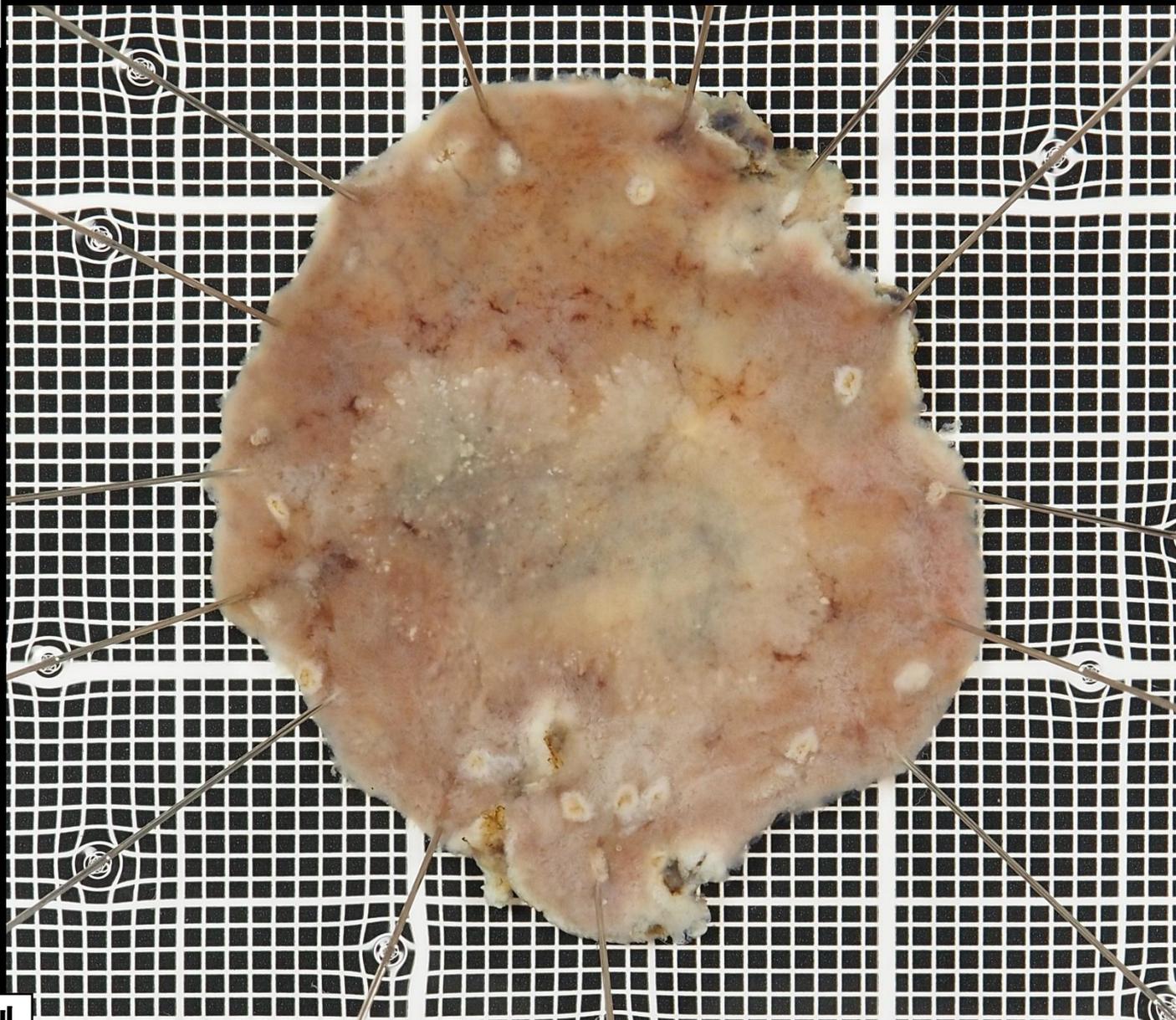
tub1

tub2



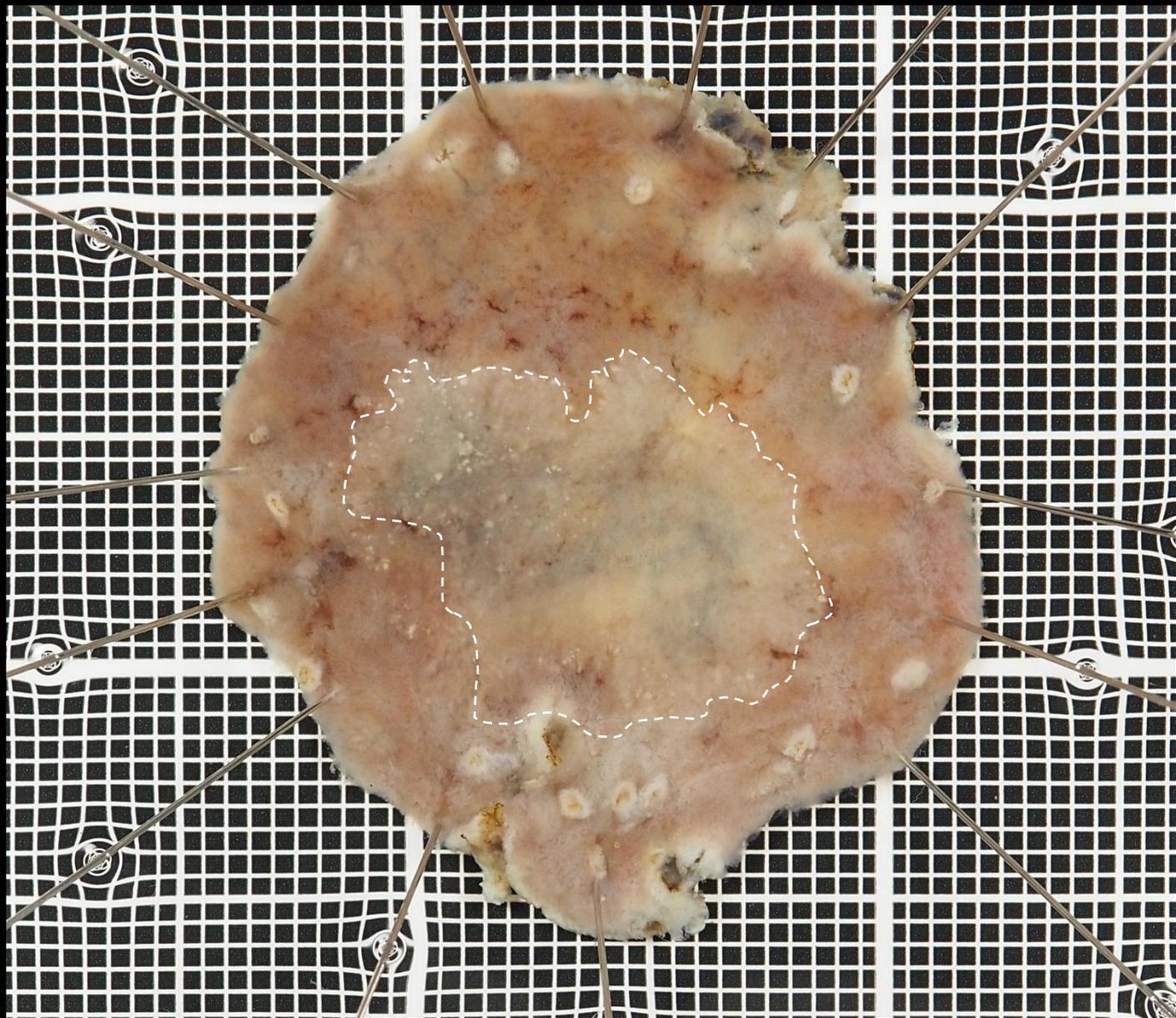
肛門側

口側



肛門側

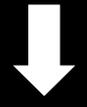


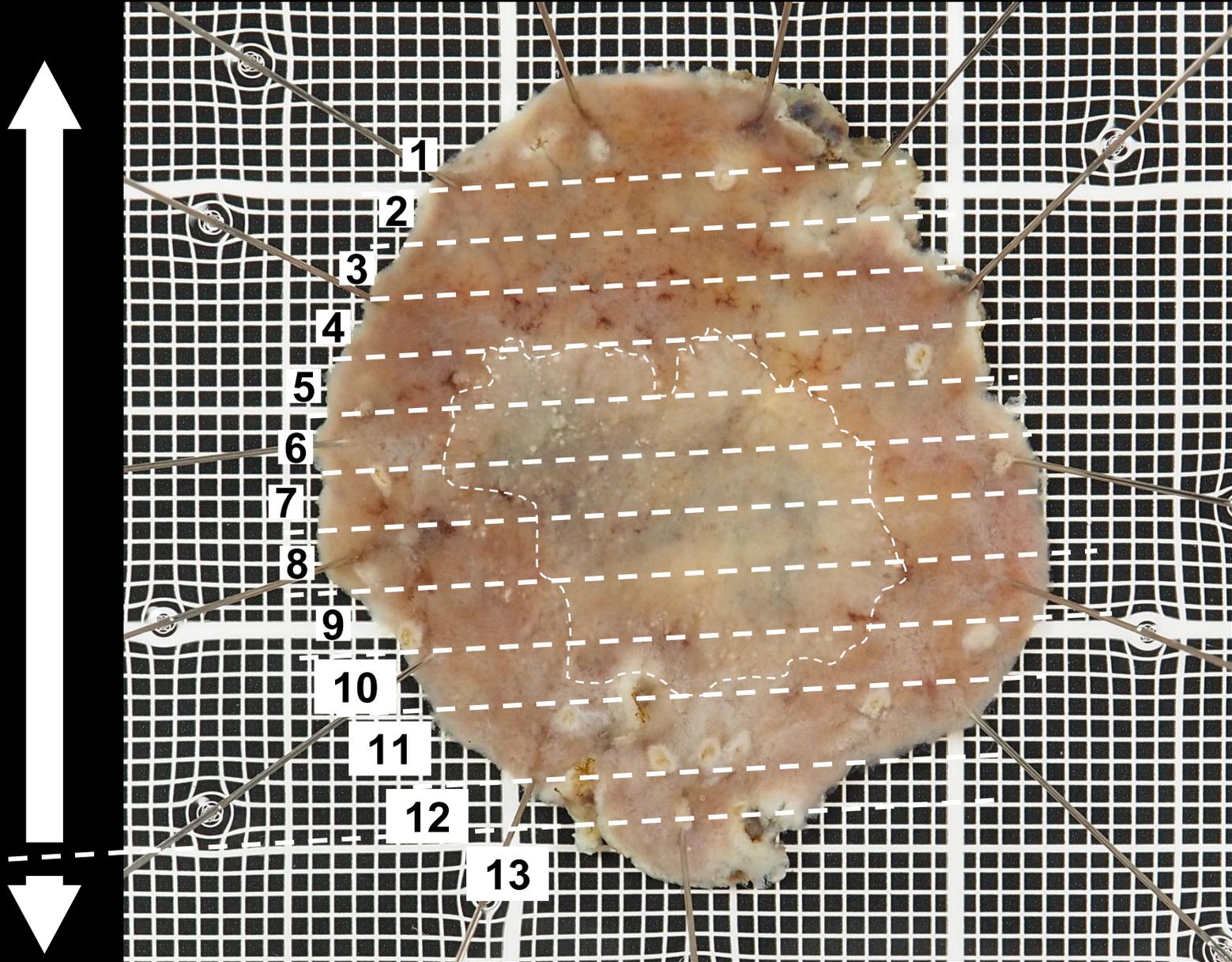


口側



肛門側

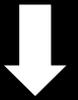


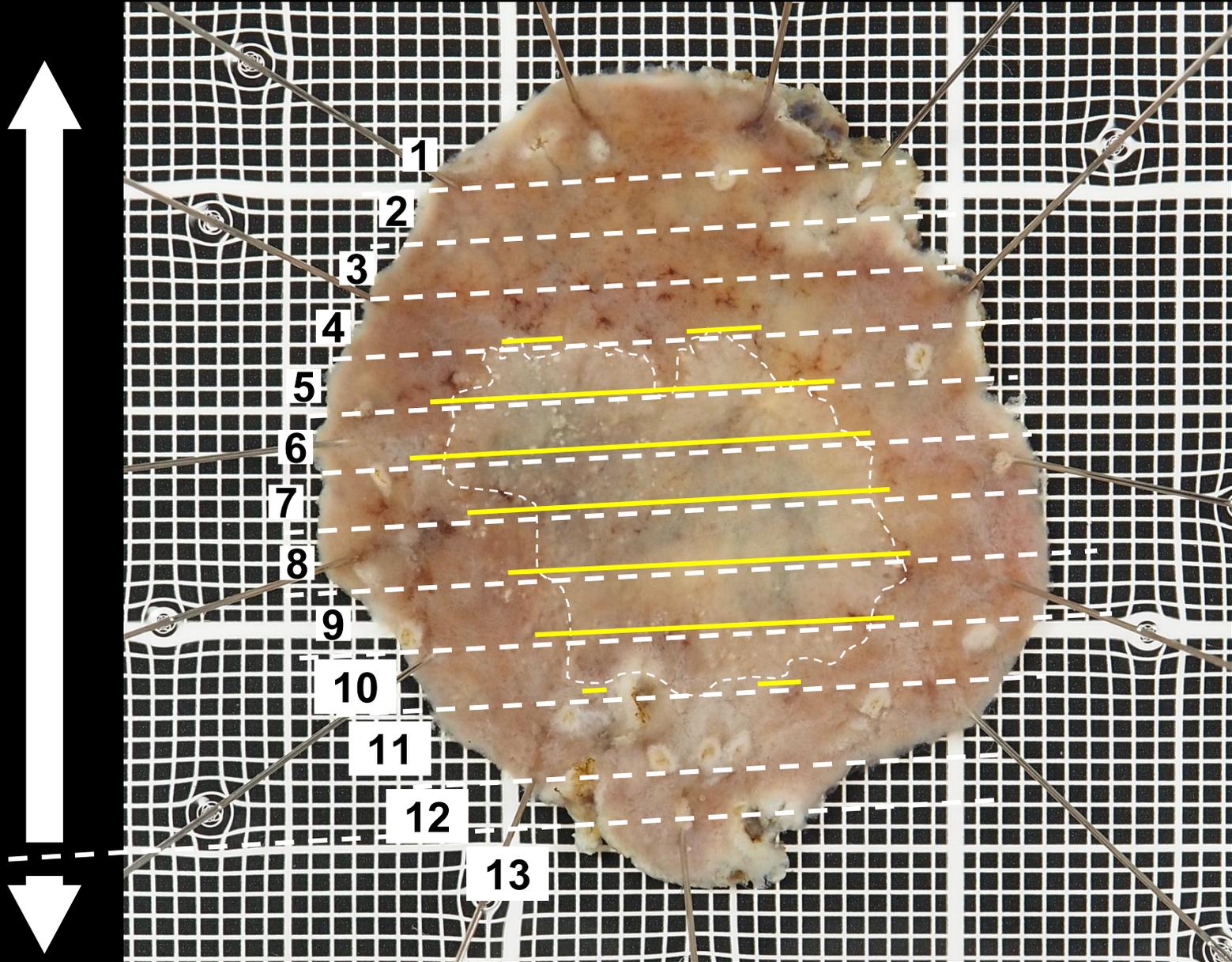


口側



肛門側



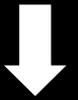


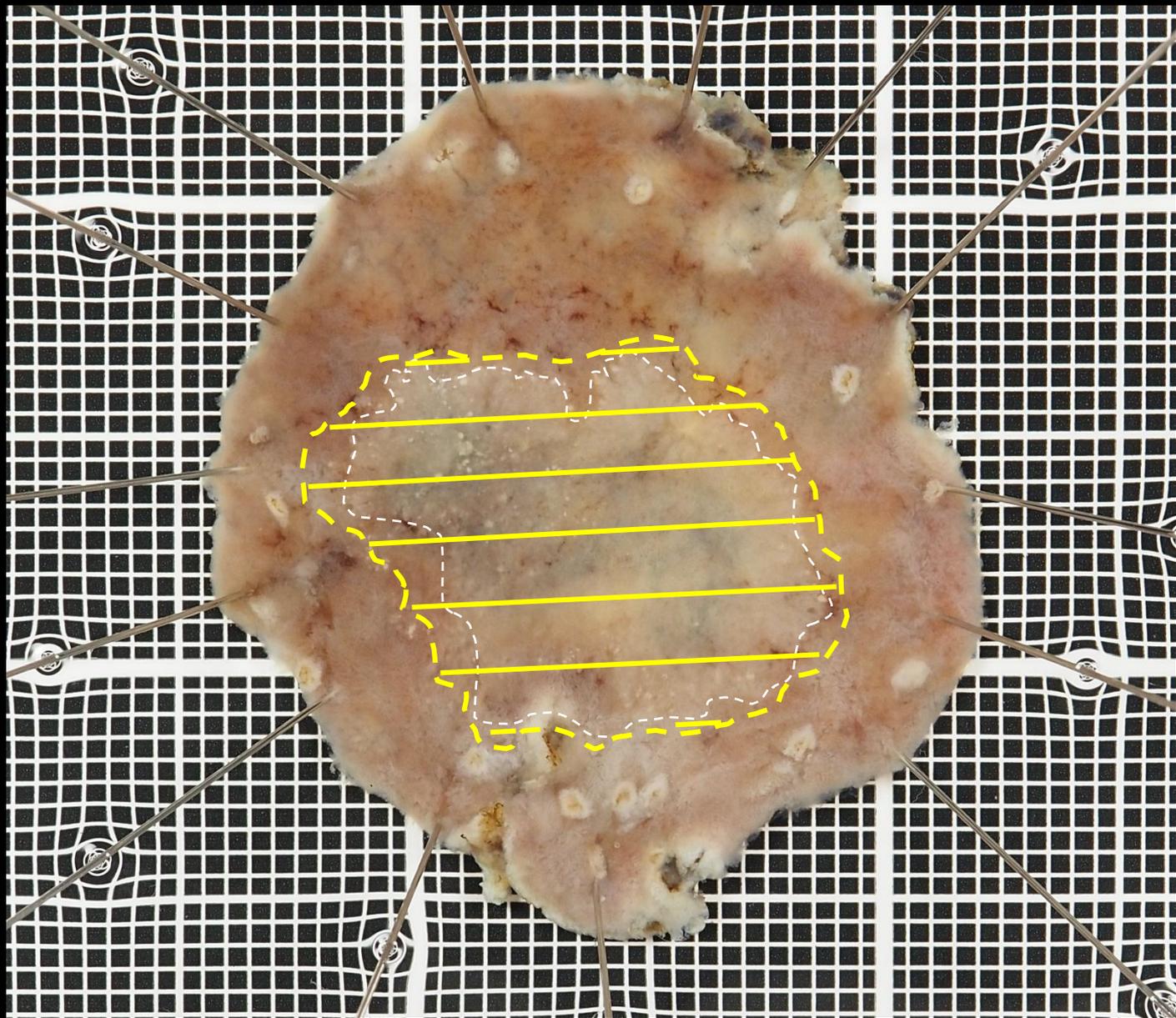
口側



— M

肛門側

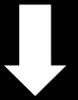


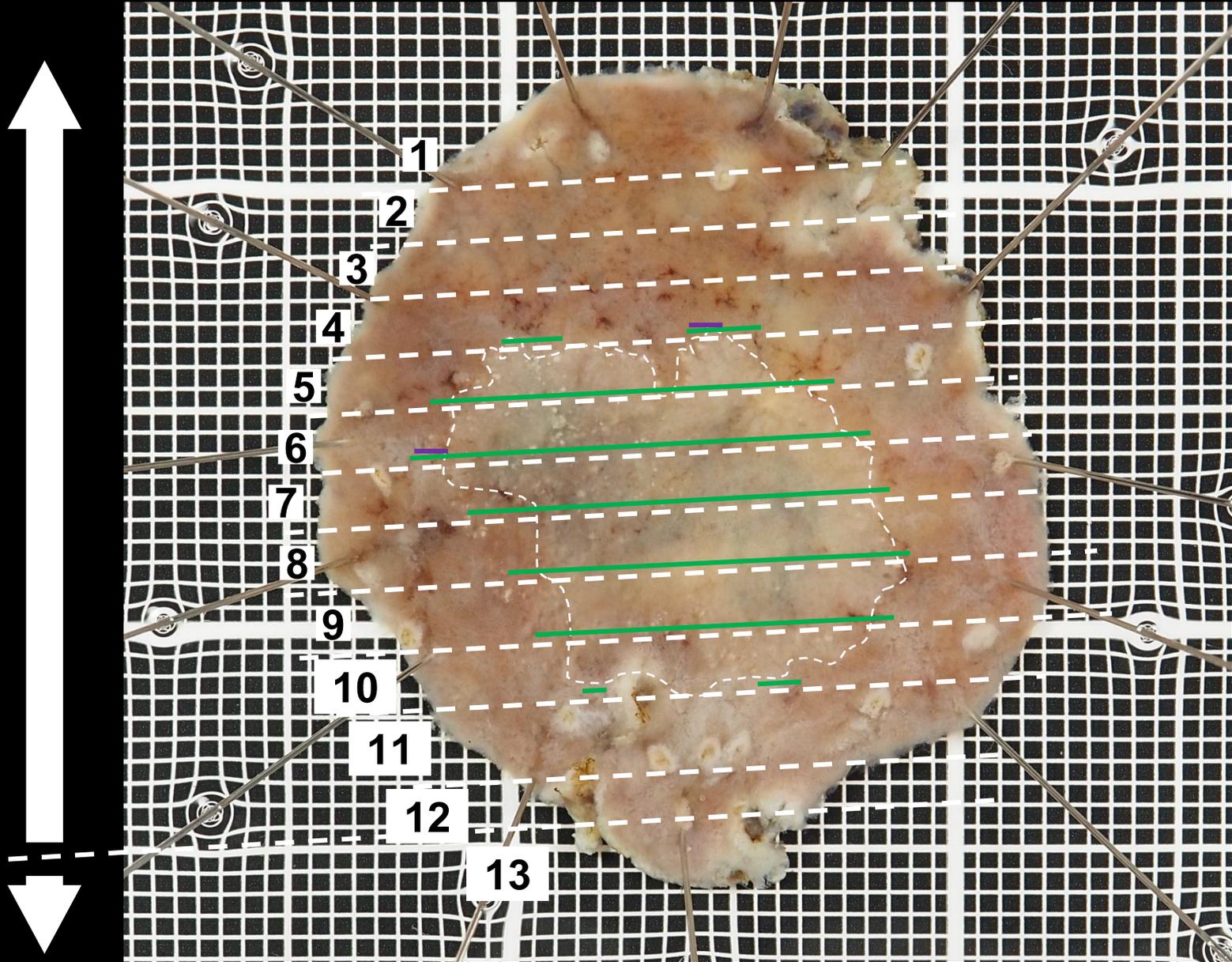


口側



肛門側



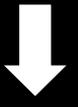


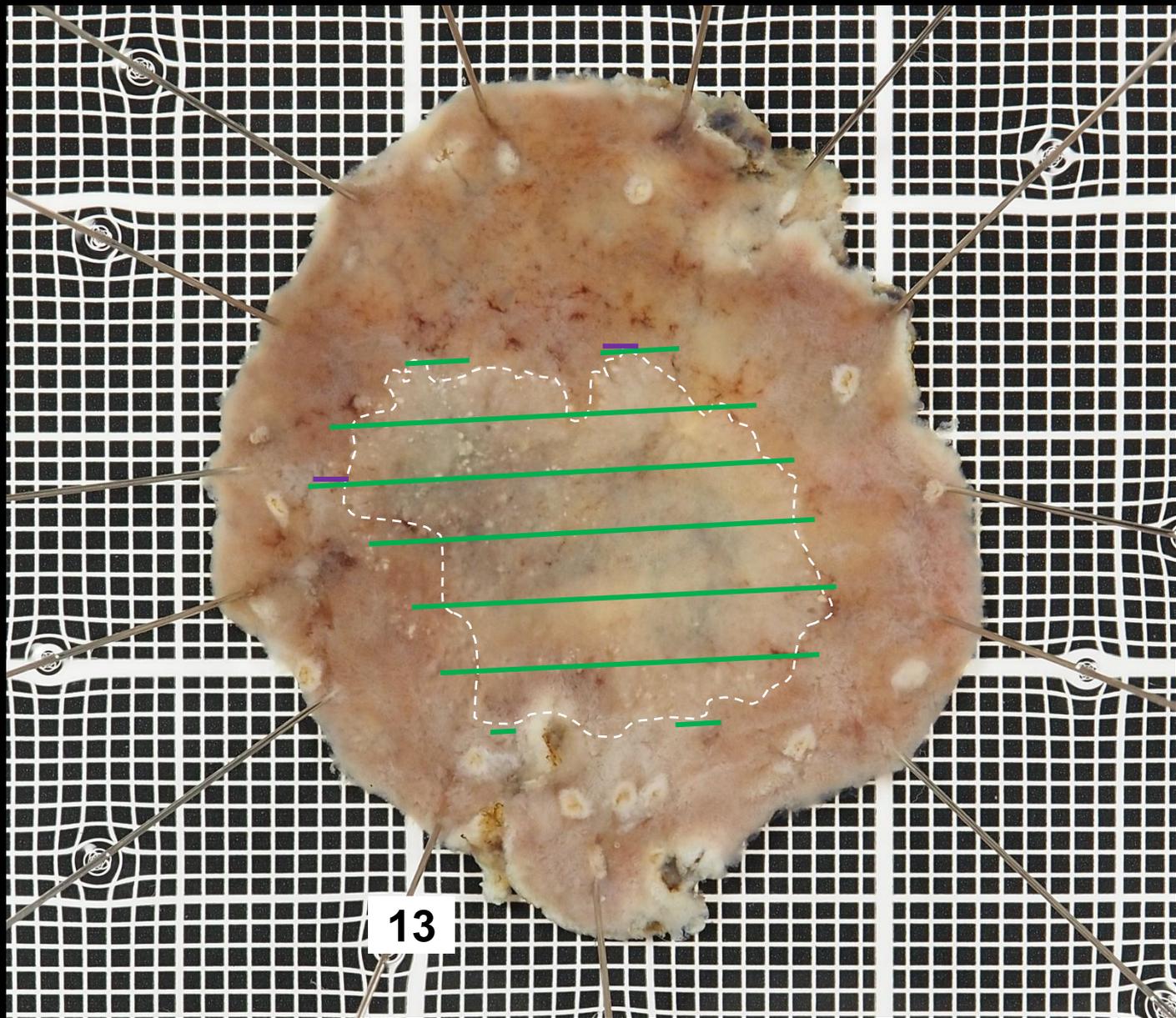
口側



— tub1
— tub2

肛門側



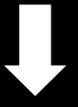


13

口側

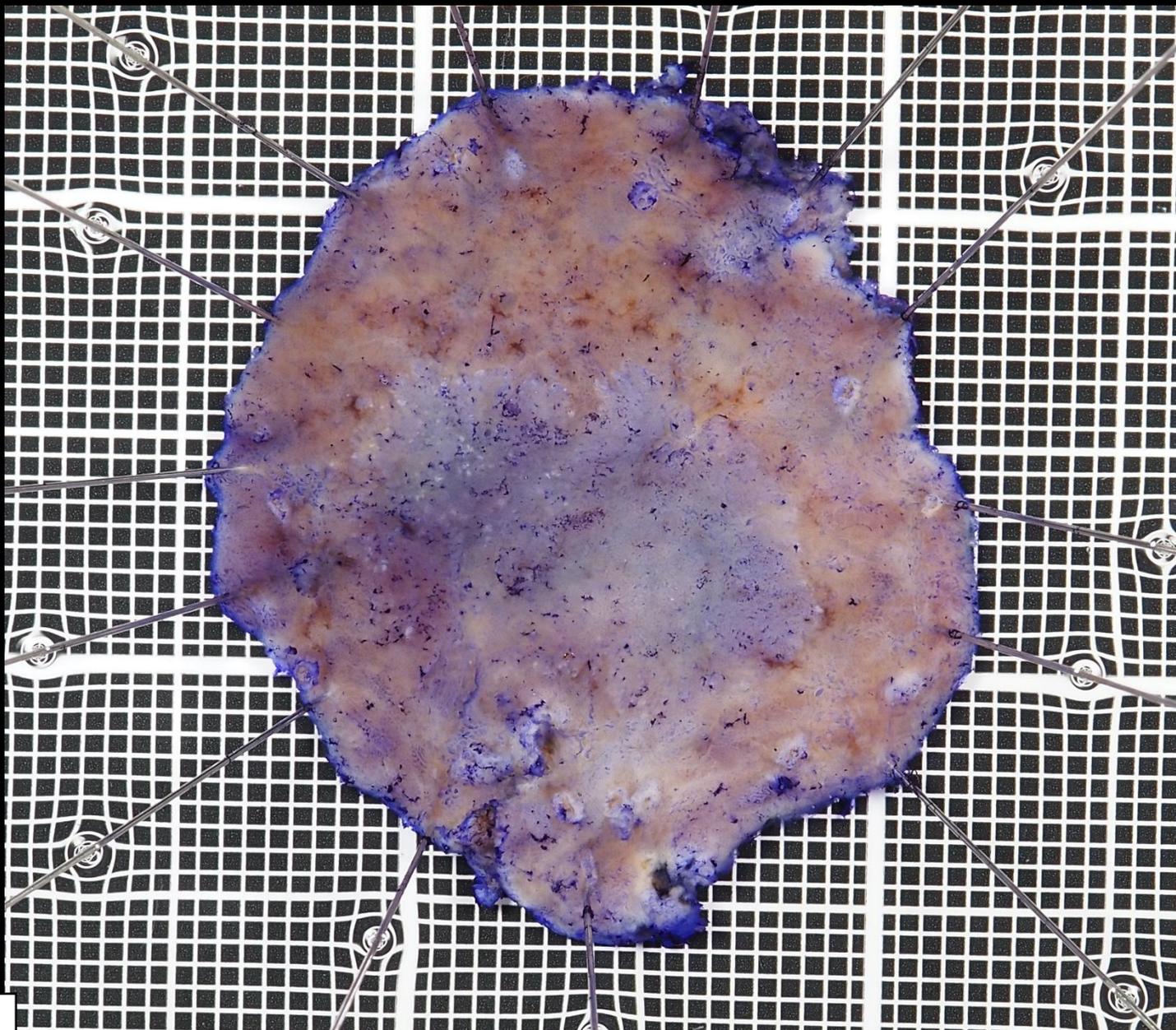


— tub1
— tub2

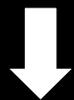


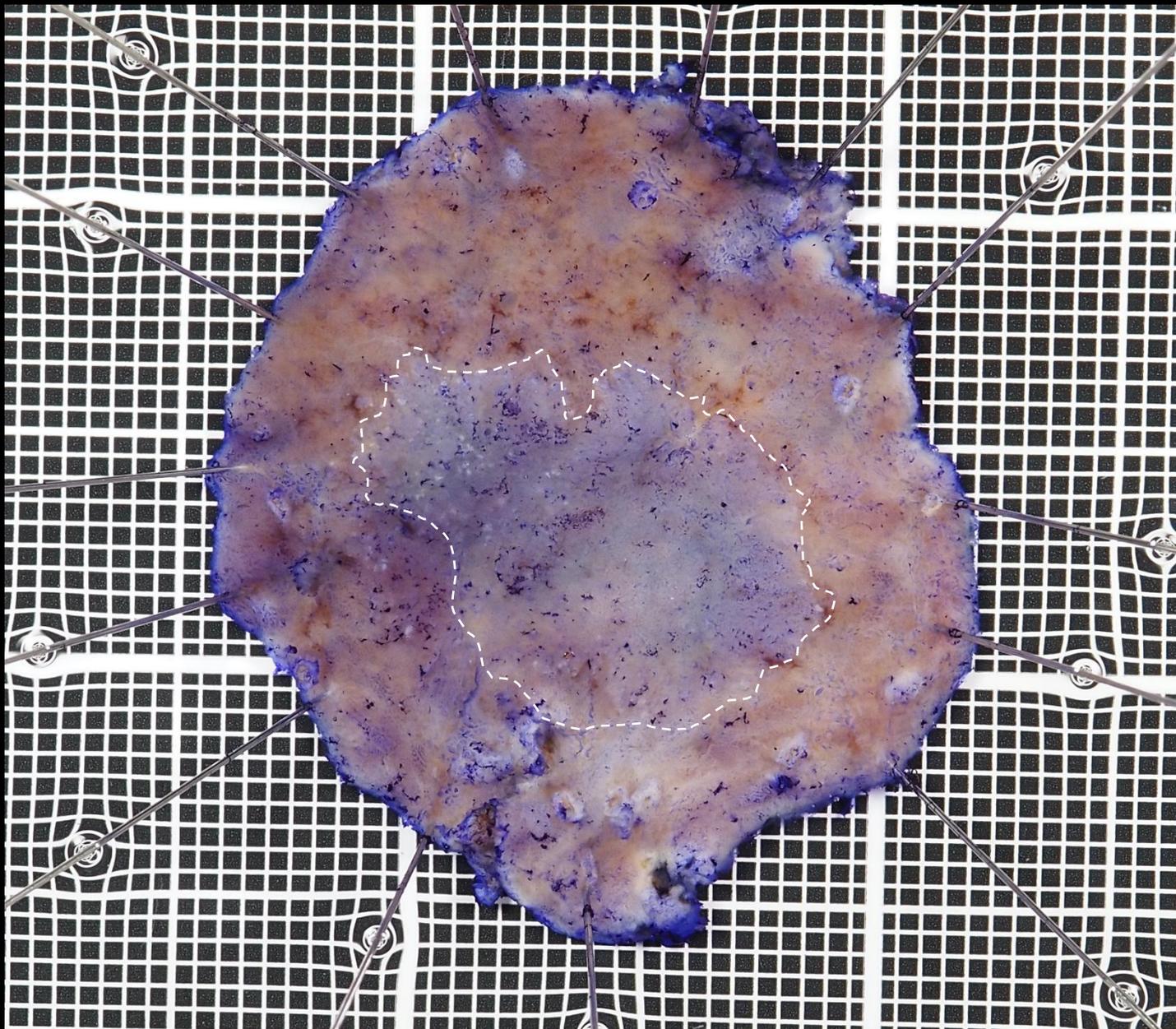
肛門側

口側



肛門側

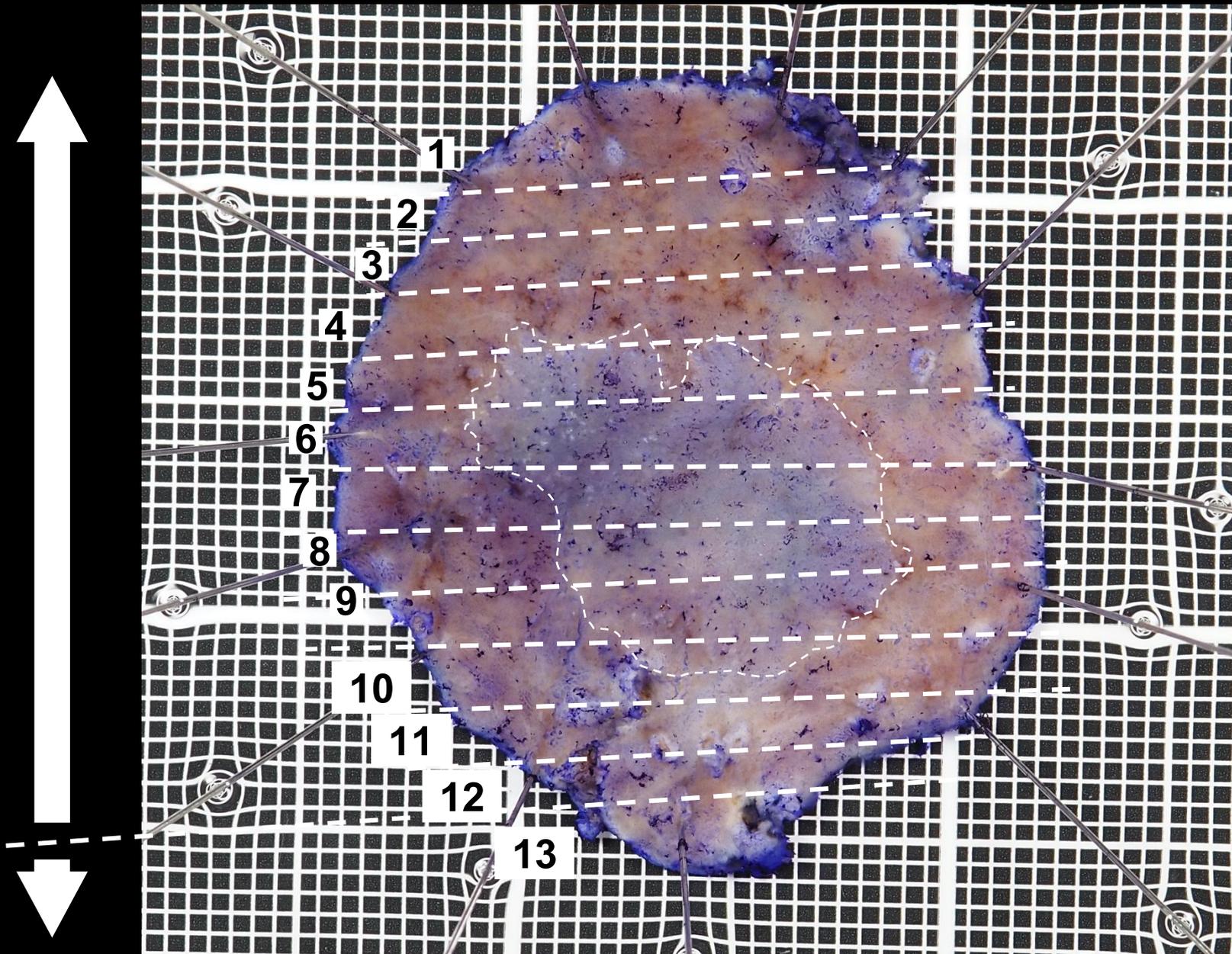




口側



肛門側

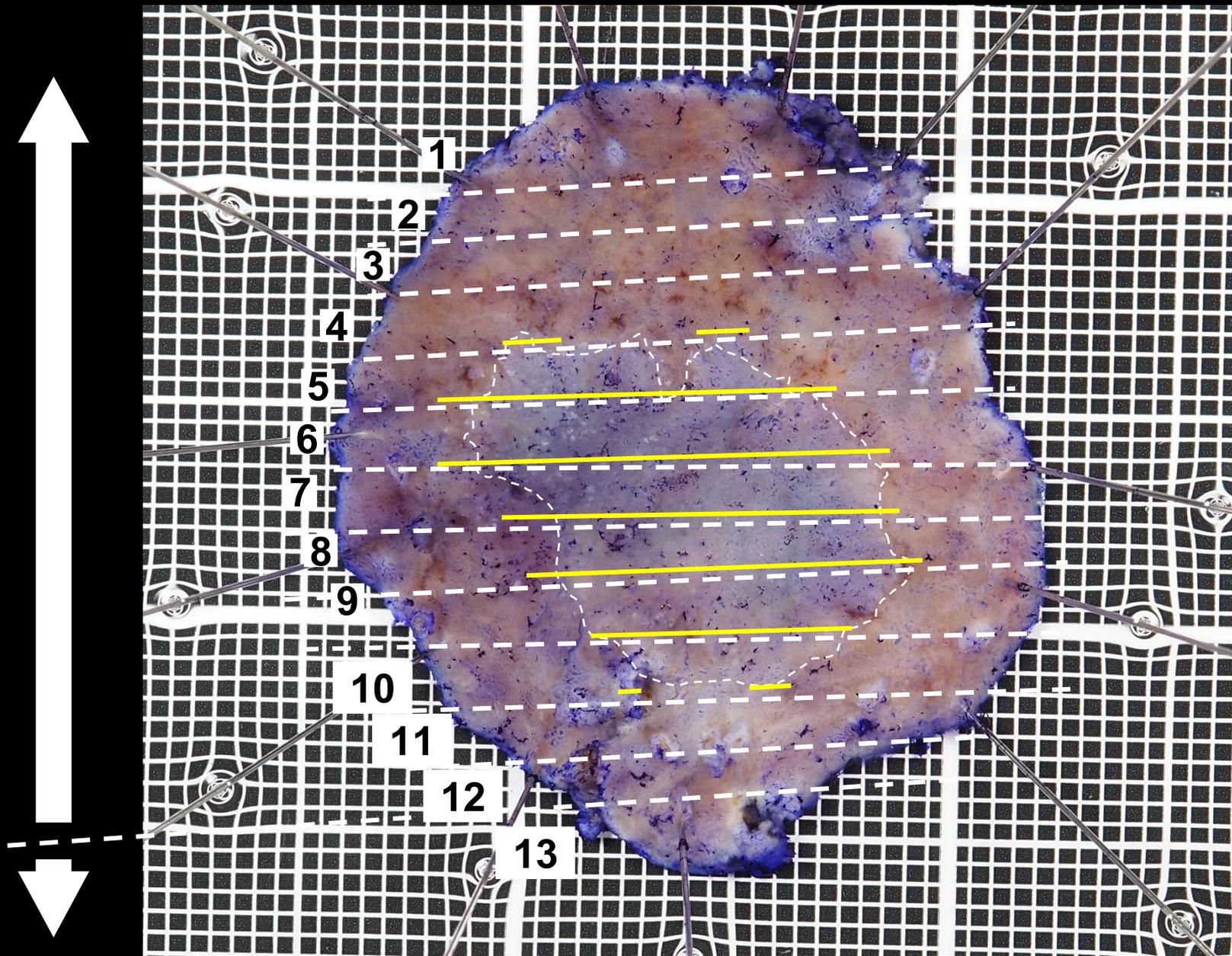


口側



肛門側





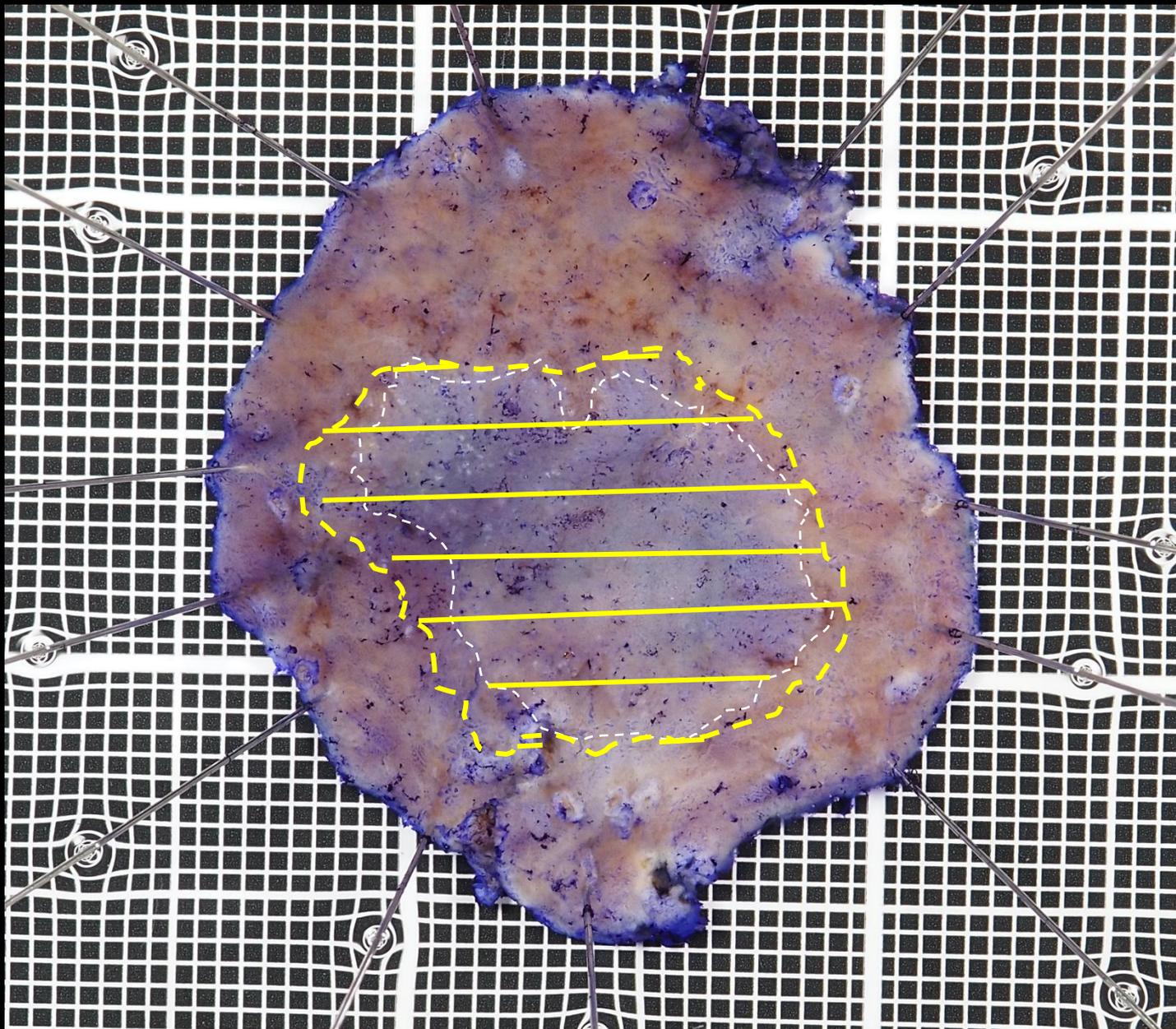
口側



— M

肛門側





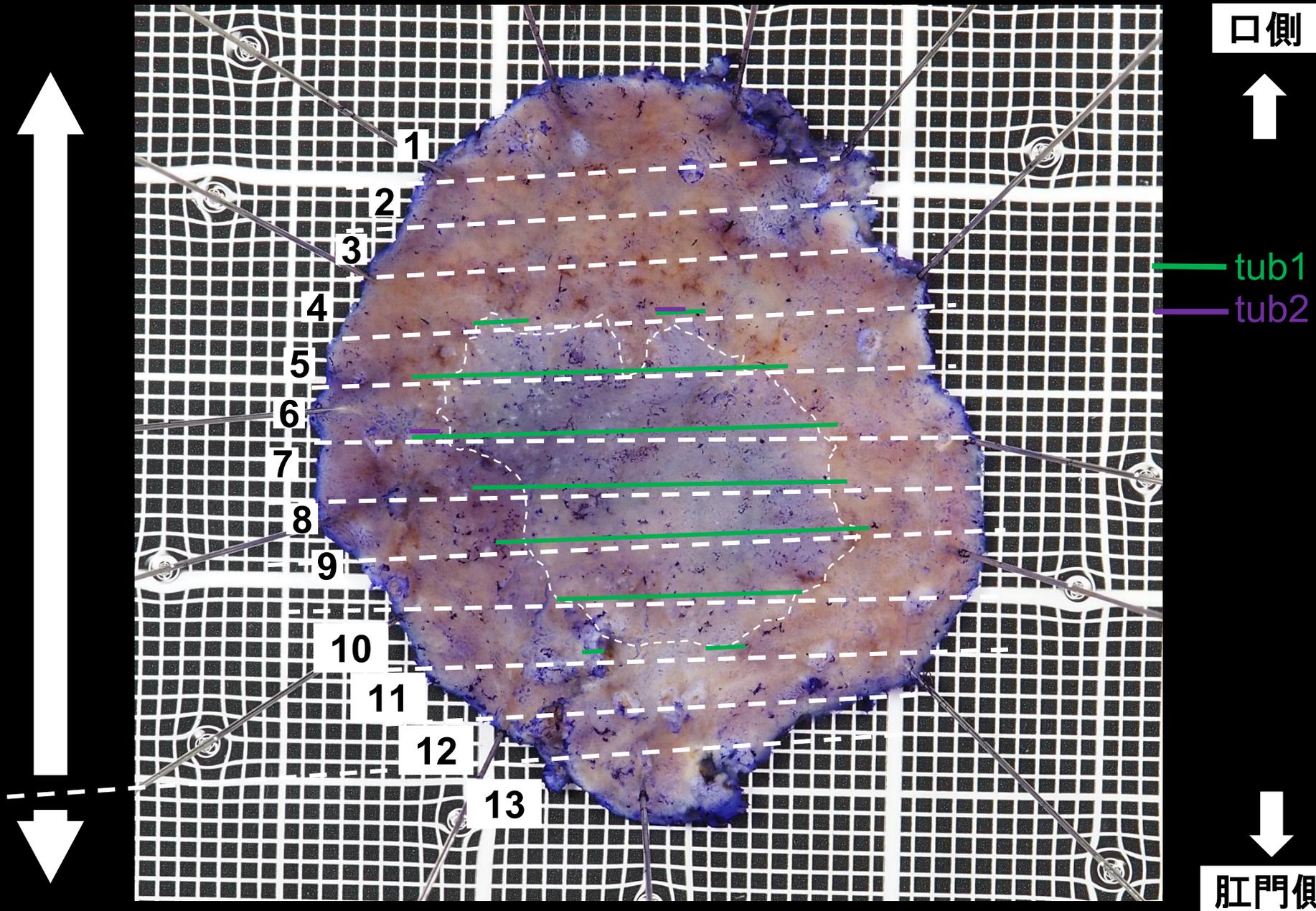
口側



— M



肛門側



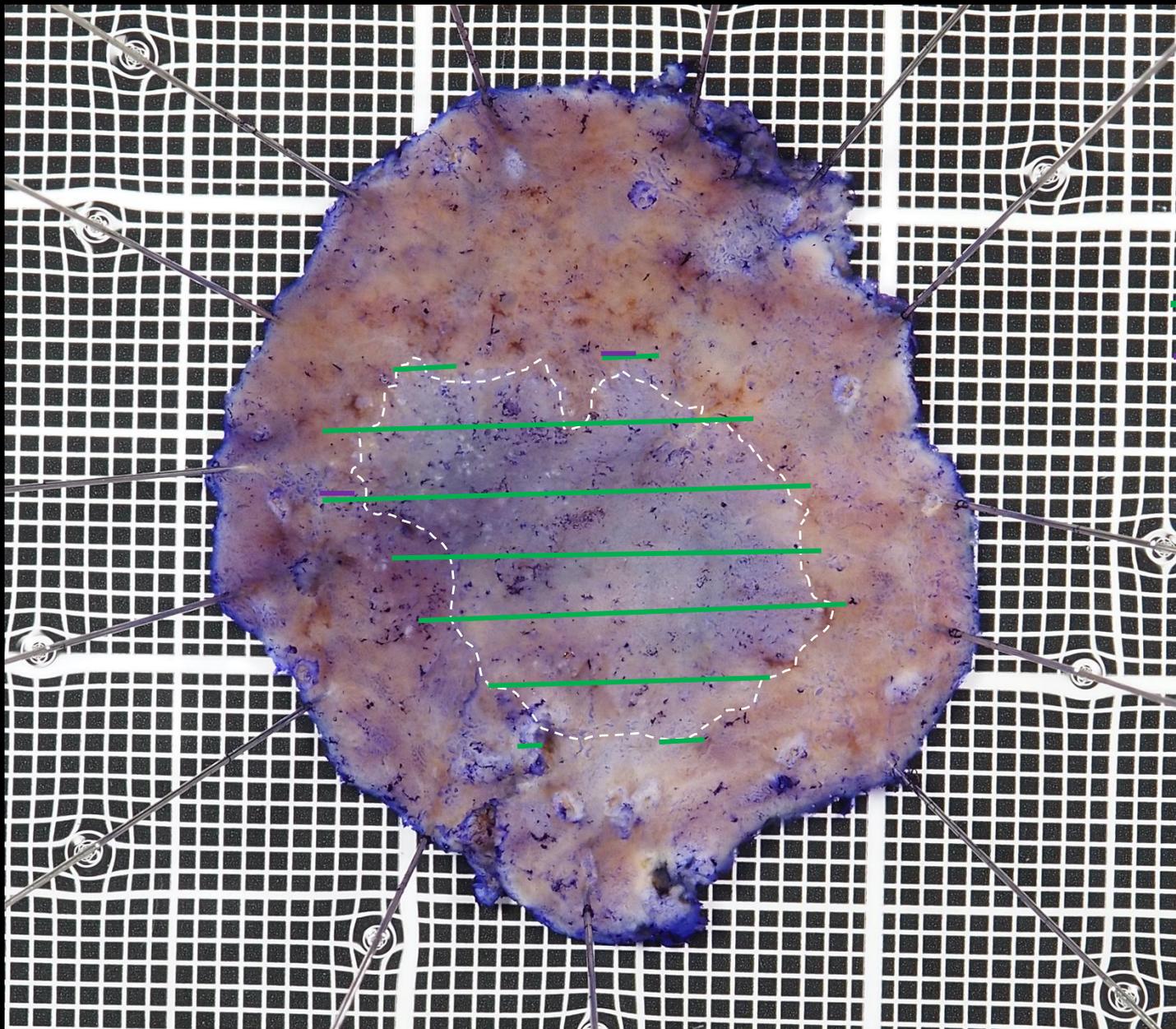
口側



tub1

tub2

肛門側



口側



tub1

tub2

肛門側



深達度診断について

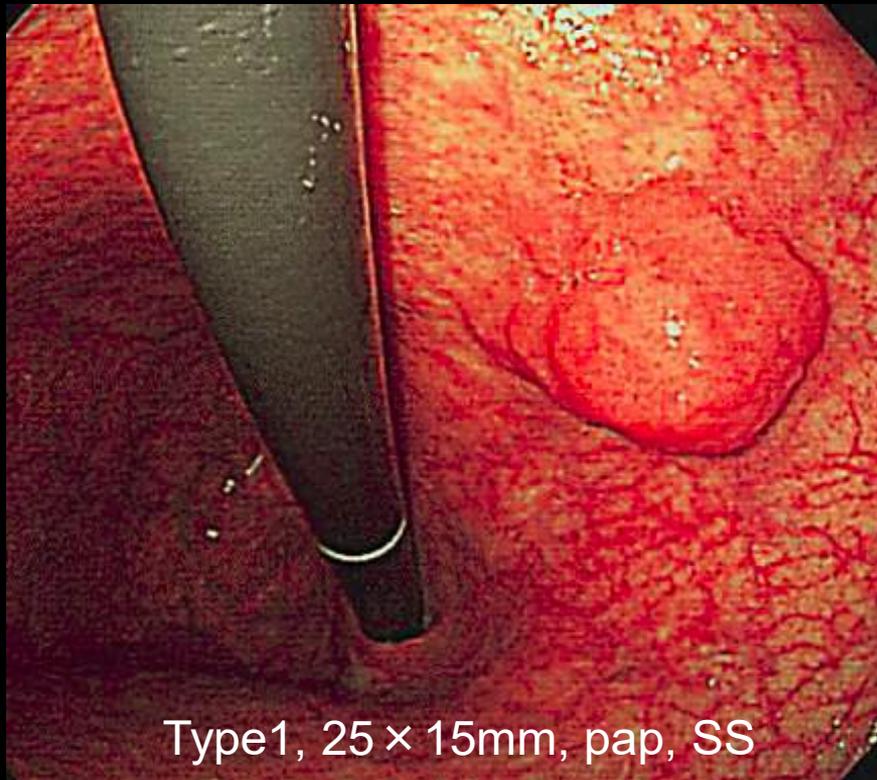
深達度診断

臨床的にはESDの適応となる深達度がM~SM1と、適応外となるSM2以深の鑑別が重要。

実際は、ピンポイントの評価は難しく、経験的にこのような所見がある場合は深達度が深い、という評価にならざるを得ないのが現状である。

隆起型病変のSM浸潤を疑う所見

表面の凹凸が目立つ

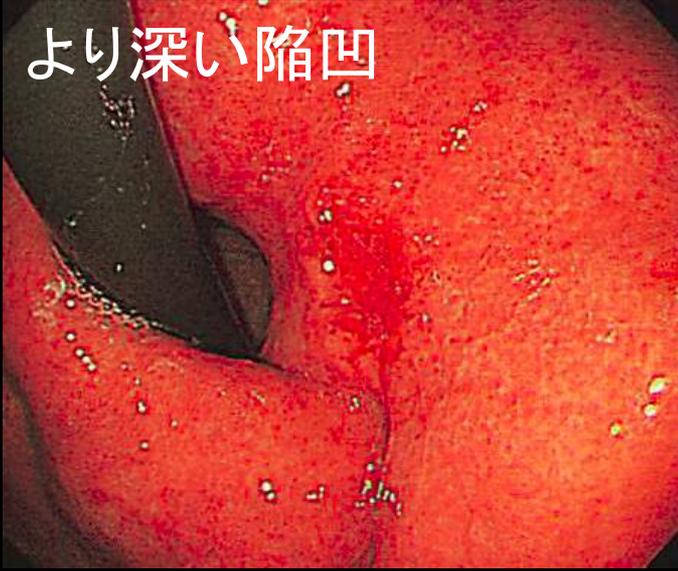


中心陥凹が目立つ



陥凹型病変のSM浸潤を疑う所見

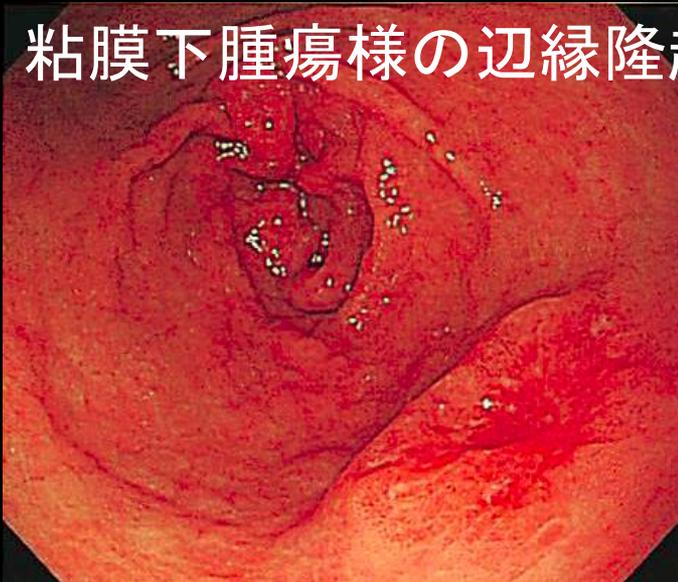
より深い陥凹



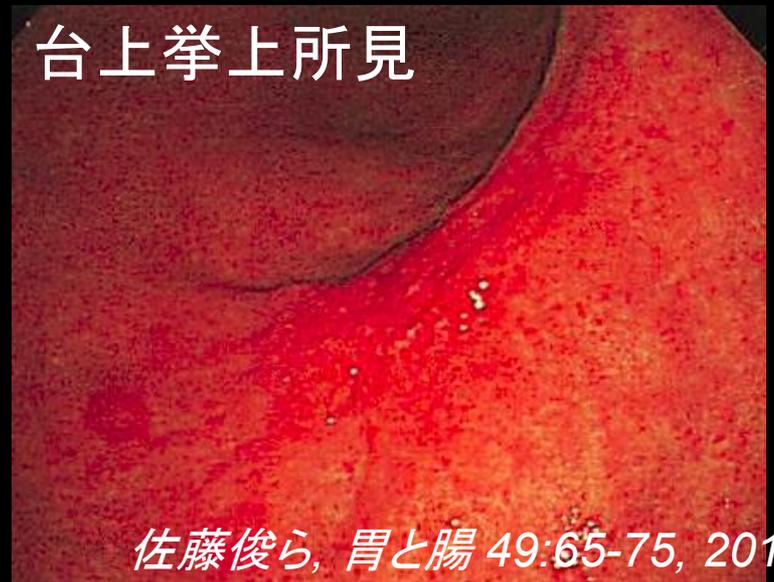
陥凹内の粗大顆粒状隆起



粘膜下腫瘍様の辺縁隆起

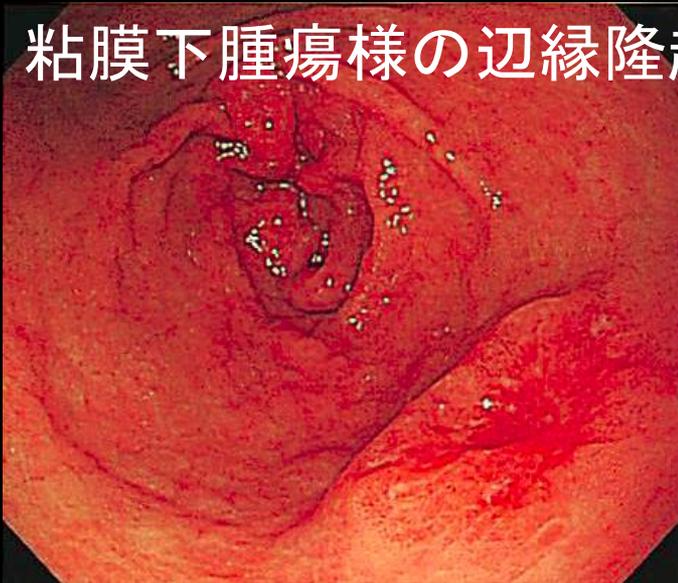


台上拳上所見

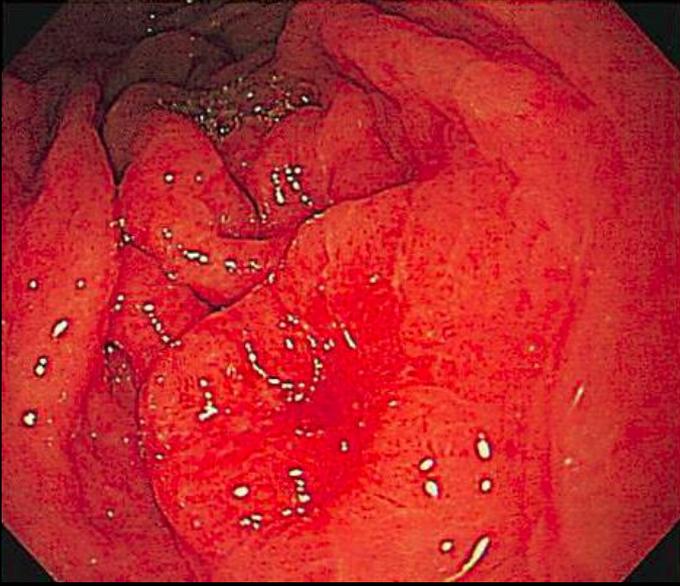


陥凹型病変のSM浸潤を疑う所見

粘膜下腫瘍様の辺縁隆起



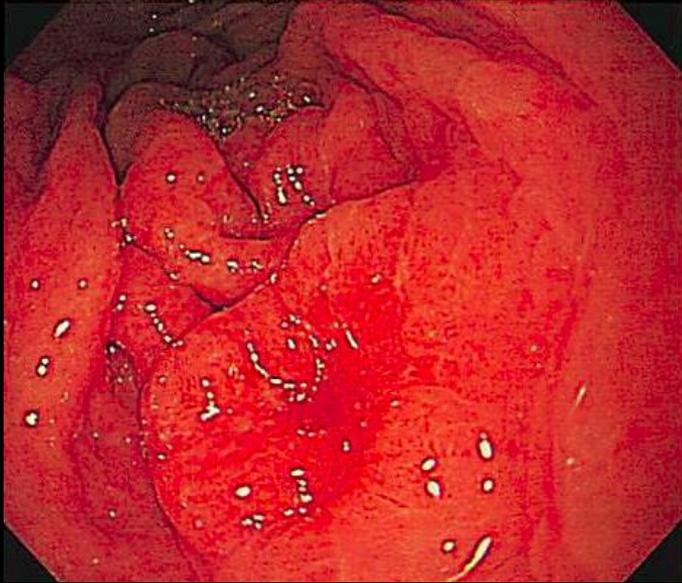
陥凹型病変のSM浸潤を疑う所見



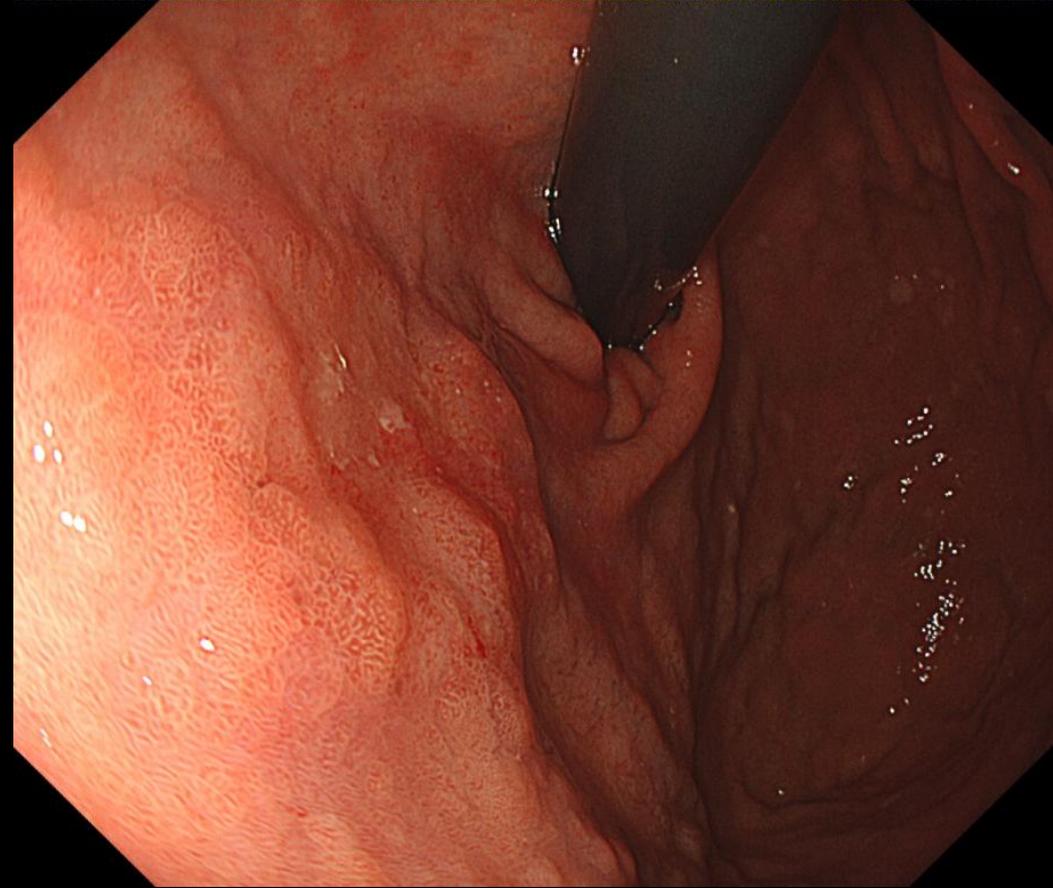
粘膜下腫瘍様の辺縁隆起



陥凹型病変のSM浸潤を疑う所見

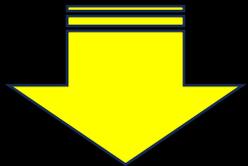


粘膜下腫瘍様の辺縁隆起



国立がんセンター中央病院での報告

2001年から2003年までの3年間で外科的に胃切除あるいは内視鏡切除が施行された単発胃癌1846症例を対象に内視鏡による臨床診断(c)と切除後病理診断(p)より深達度診断正診率の検討が行われた。

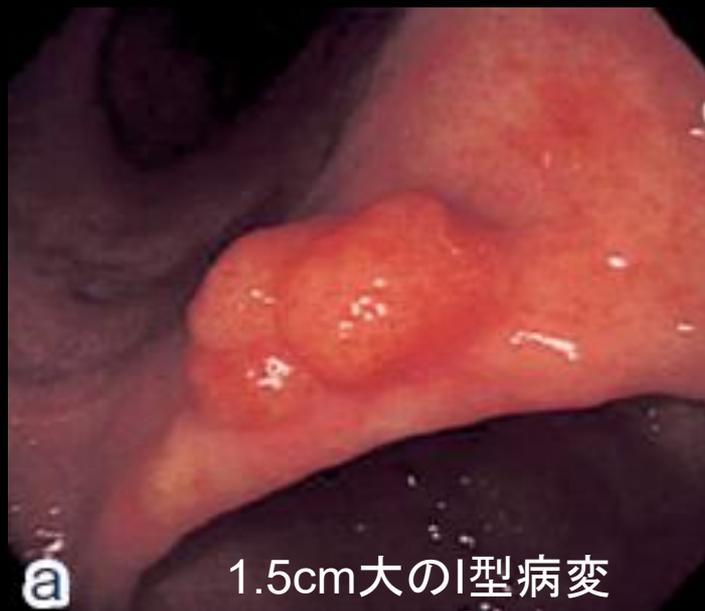


肉眼型ごとに基準を設定した

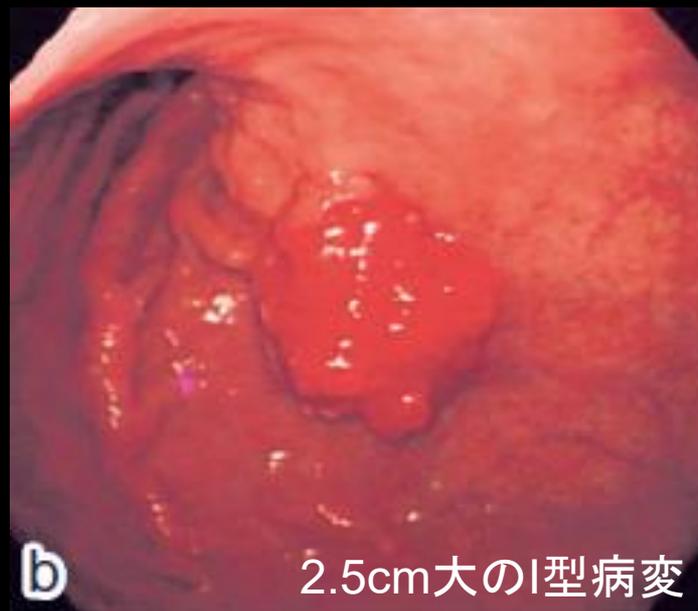
I 型

2cm 以下ではM と診断。

2cm を超えかつ広基性や表面にくずれ・陥凹をともなう場合に SM と診断。



Mと診断

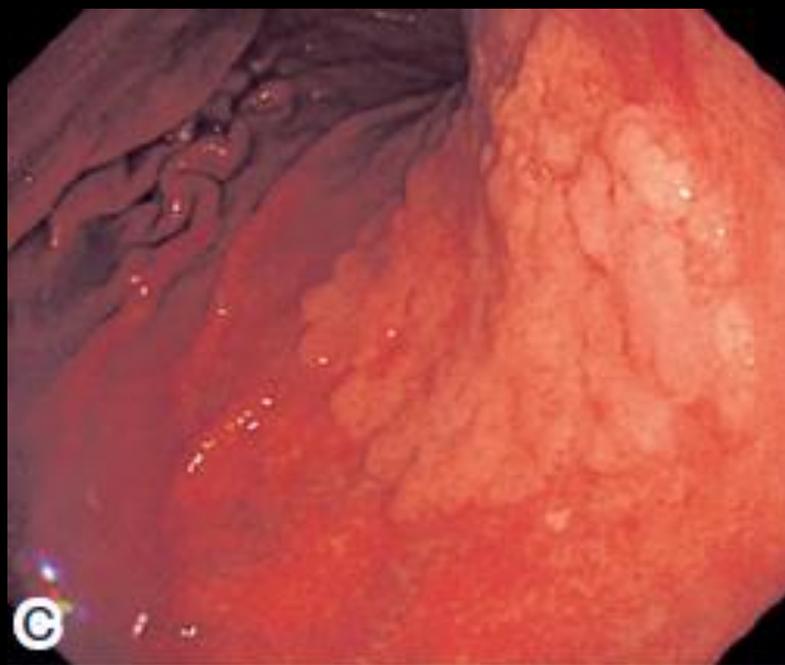


SMと診断

Ⅱ a型

基本的にはMと診断。

大小不同の結節が目立つ、中心陥凹がある、表面にびらん・発赤をともなう場合はSMと診断。



5cm大のⅡ a型病変(表面に陥凹なし)

Mと診断



2.5cm大の中心陥凹をともなう隆起性病変

SMと診断

Ⅱc型

著明な発赤、ひだ先端の融合、壁の厚み、陥凹内隆起、粘膜表面の無構造化、辺縁粘膜下腫瘍様隆起はSM(もしくはSM以深)を示唆する所見とした。



2cm大の浅い陥凹性病変(Ⅱc型)

Mと診断



2.5cm大の陥凹性病変(Ⅱc型) 壁の厚みあり

SMと診断

Table 1. 早期癌と進行癌の診断

		臨床診断	
		c 早期癌	c 進行癌
病理診断	p 早期癌	95% (1199/1258)	5% (59/1258)
	p 進行癌	14% (84/588)	86% (504/588)

Table 2. MとSMの診断

		臨床診断		
		cM	cSM	cMP
病理診断	pM	85% (714/836)	14% (112/836)	1% (10/836)
	pSM	42% (177/422)	46% (196/422)	12% (49/422)

病理でM癌だが臨床的にSMやMPと深読みしていたのは15%

病理でSM癌だが臨床的にMと浅読み42%、MPと深読みしていたのは12%

Table 3. SM1とSM2の診断

		臨床診断		
		cM	cSM	cMP
病理診断	pSM1	65% (100/155)	30% (47/155)	5% (8/155)
	pSM2	29% (77/267)	56% (149/267)	15% (41/267)

SMは正診率が思ったよりも高くない

浅読みが多くなる傾向としては、pMをcSM以上と深読みすることによる過剰な治療（ESDで根治可能な病変を手術する）を防ぐため、ESDを診断的側面として利用しているため。

Table 4. 肉眼型, UL 有無, 部位, 腫瘍径, 組織型と誤診例

	誤診率			計
	pSM を cM と浅読み	pSM を cMP 以上と 深読み	pM を cSM 以上と 深読み	
肉眼型	他の肉眼型と比べて有意に高い			
I・II a (n = 607)	12% (9)	12% (9)	0.4% (1)	19% (45)
II a + II c (n = 125)	20% (25)	12% (15)	4% (5)	36% (45)
II c・II b (n = 897)	13% (117)	3% (25)	13% (116)	29% (258)
UL の有無	UL+ だと誤診しやすい			
UL - (n = 107)	13% (14)	3% (26)	3% (26)	22% (164)
UL + (n = 496)	13% (65)	5% (23)	19% (96)	37% (184)
部位	U領域では病変を浅読みしやすい			
U領域 (n = 230)	23% (53)	4% (10)	5% (12)	33% (75)
M領域 (n = 407)	16% (64)	10% (33)	7% (27)	24% (97)
L領域 (n = 470)	13% (61)	13% (61)	13% (61)	28% (176)
腫瘍径	U領域では病変を浅読みしやすい			
10mm 以下 (n = 275)	6% (15)	0.4% (1)	1% (3)	7% (19)
11 ~ 20mm (n = 357)	19% (66)	0.8% (3)	8% (29)	28% (98)
21mm 以上 (n = 626)	15% (96)	7% (45)	14% (90)	37% (231)
組織型	U領域では病変を浅読みしやすい			
分化型 (n = 911)	15% (137)	3% (24)	5% (41)	22% (202)
未分化型 (n = 347)	12% (40)	7% (25)	23% (81)	42% (146)
	分化型では病変を浅読みしやすく、未分化型で深読みしやすい (348)			

M-SM1 癌と SM2 癌の内視鏡的特徴の違いについて分析。
 これらの早期がんの深さを予測するための簡単なスコアリング
 モデルについて検討。

分化型早期胃癌853例をもとに内視鏡的な特徴を作成し、スコ
 アリングモデルを作成

Table 3 Multivariate logistic regression analysis

	β -coefficient	Odds ratio (95% CI)	p value
Margin elevation	7.838	6.221 (3.938–9.825)	<0.0001
Tumor size (more than 30 mm)	6.570	4.937 (3.066–7.951)	<0.0001
Remarkable redness	3.411	2.087 (1.367–3.186)	0.0006
Uneven surface	3.343	2.306 (1.413–3.764)	0.0008

CI confidence interval

Evaluated items in multiple logistic regression analysis were fol-
 lowed: tumor size more than 30 mm, macroscopic type (IIa + IIc),
 remarkable redness, uneven surface margin elevation, ulceration and
 enlarged folds. Only the statistically significant items are listed in the
 table

Table 4 Proposed depth-predicting score

Factor	Points	
	Present	Absent
Margin elevation	2	0
Tumor size (more than 30 mm)	2	0
Remarkable redness	1	0
Uneven surface	1	0

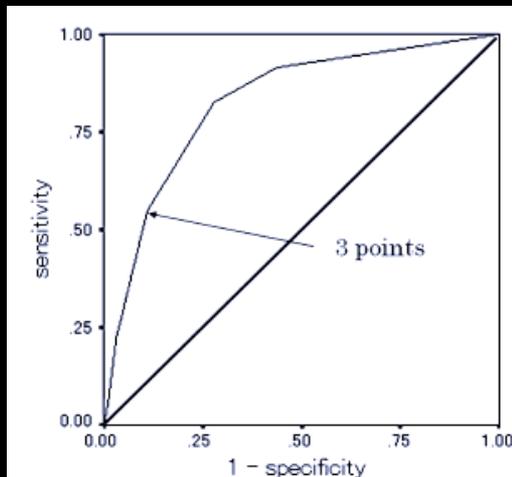
癌辺縁の隆起・腫瘍径30mm以上・著明な発赤・表面不整

Table 4 Proposed depth-predicting score

Factor	Points	
	Present	Absent
Margin elevation	2	0
Tumor size (more than 30 mm)	2	0
Remarkable redness	1	0
Uneven surface	1	0

Table 5 Diagnostic sensitivity and specificity by depth-predicting score according to macroscopic type in the validation group

	IIa	IIc/IIa + IIc	Total
Endoscopist 1			
Sensitivity	50.0% (3/6)	25.8% (8/31)	29.7% (11/37)
Specificity	96.3% (52/54)	92.5% (111/120)	93.7% (163/174)
Accuracy	91.7% (55/60)	78.8% (119/151)	82.5% (174/211)
Endoscopist 2			
Sensitivity	83.3% (5/6)	38.7% (12/31)	45.9% (17/37)
Specificity	92.6% (50/54)	93.3% (112/120)	93.1% (162/174)
Accuracy	91.7% (55/60)	82.1% (124/151)	84.8% (179/211)
Endoscopist 3			
Sensitivity	50.0% (3/6)	35.8% (11/31)	37.8% (14/37)
Specificity	96.3% (52/54)	92.5% (111/120)	93.7% (163/174)
Accuracy	91.7% (55/60)	80.8% (122/151)	83.9% (177/211)

**Fig. 7** Receiver operating characteristic curve for depth-predicting score (DPS) and the sensitivity of SM2: the arrow (3 points) shows the cutoff point between M-SM1 and SM2

3点以上が有意と考えられる

M-SM1 がんを内視鏡治療に導く特異度はよいが、感度は低い。

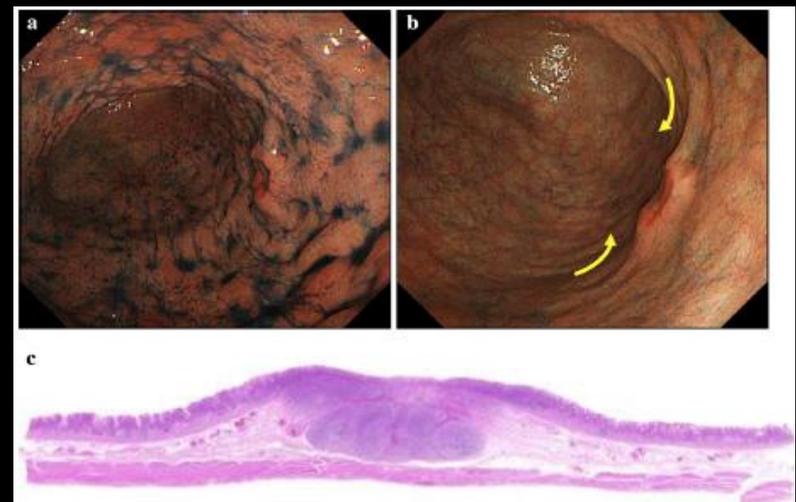
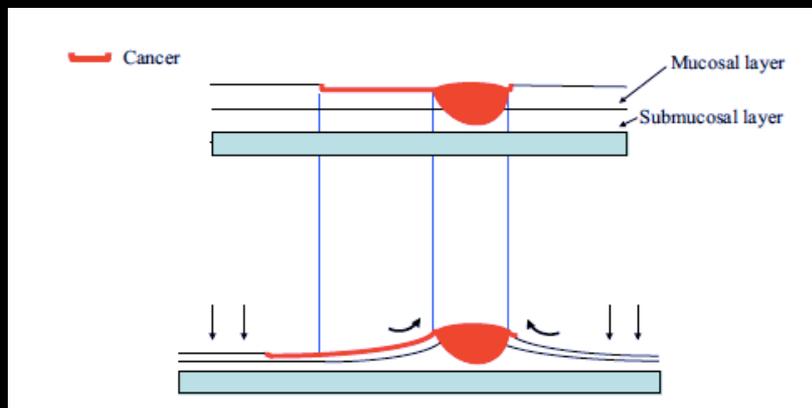
2点未満の病変はEUSの省略を多なくても良さそうだが、3点以上はEUSまで行なった方がよいのではないか。

スコアを元に新たな211症例を検討。正診率は80%程度

送気による病変進展の有無を指標に粘膜下層深部浸潤癌が鑑別できるか検討。

過去の写真を用いての検討ではあるが、胃内に送気をしっかり行なっても病変が進展しない non-extension sign による粘膜下層深部浸潤癌の正診率は96.9%と非常に高い

Nagahama T, et al. Gastric Cancer 20:304–313, 2017



SM2では周囲粘膜の硬化による台形の隆起を呈する

EUSについて

超音波内視鏡(EUS)は胃癌深達度を断面画像により診断するという意味で理想的に思えるが、内視鏡治療適応の分かれ目となる粘膜下層浸潤の程度を診断するには十分ではない。

Choi J, et al. Endoscopy 42: 705–713, 2010

Table 2 Accuracy rates for T staging by EUS and conventional endoscopy.

	Tstage by EUS			T stage by conventional endoscopy		P value	Combined EUS and conventional endoscopy†	
	T1m	T1sm	T2	T1m	T1sm		T1m	T1sm
Pathologic stage								
T1m	487	147	10	501	143		439	86
T1sm	139	157	15	108	203		83	132
Accuracy, % (95% CI)								
T1m	69.0 (66.2–71.8)			73.7 (70.9–76.5)		0.023	77.2 (74.2–79.9)	
T1sm	68.5 (65.7–71.2)			73.7 (70.9–76.5)		0.012	77.2 (74.2–79.9)	
Overall accuracy, % (95% CI)	67.4 (64.4–70.4)			73.7 (70.9–76.5)		0.003	77.2 (74.2–79.9)	
Overestimation, % (95% CI)	18.0 (15.6–20.4)			15.0 (12.7–17.2)		0.012	11.6 (9.3–13.9)	
Underestimation, % (95% CI)	14.6 (12.3–16.8)			11.3 (9.3–13.3)		0.001	11.2 (8.9–13.5)	
Sensitivity, % (95% CI)								
T1m	75.6 (73.5–77.7)			77.8 (75.7–79.7)		0.215	83.6 (81.5–85.6)	
T1sm	50.5 (46.2–54.7)			65.3 (61.0–69.3)		0.001	61.4 (56.3–66.2)	
Specificity, % (95% CI)								
T1m	55.3 (50.9–59.5)			65.3 (61.0–69.3)		0.001	61.4 (56.3–66.2)	
T1sm	77.2 (75.1–79.2)			77.8 (75.7–79.7)		0.783	83.6 (81.5–85.6)	
PPV, % (95% CI)								
T1m	77.8 (75.6–79.9)			82.3 (80.1–84.3)			84.1 (82.0–86.1)	
T1sm	51.6 (47.2–56.0)			58.7 (54.8–62.3)			60.6 (55.5–65.3)	
NPV, % (95% CI)								
T1m	52.3 (48.2–56.3)			58.7 (54.8–62.3)			60.6 (55.5–65.3)	
T1sm	76.3 (74.3–78.4)			82.3 (80.1–84.3)			84.1 (82.0–86.1)	

早期胃癌の治療方針を決めるのにはEUSは必須ではないのでは？