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## INTRODUCTION

Smoking is a known factor to impair healing after any kind of surgery. In HS, the majority of patients are smokers and this intoxication aggravates the disease. But what about healing after HS excision?

## MATERIALS and METHODS

We performed a retrospective monocentric study. All patient who underwent wide excision for HS between 2016 and 2021 were identified in our hospital. All patients had wound healing after excision. Primary outcome was to assess the impact of tobacco on healing time. A description of the different sociodemographic and clinical variables of the study population was performed.

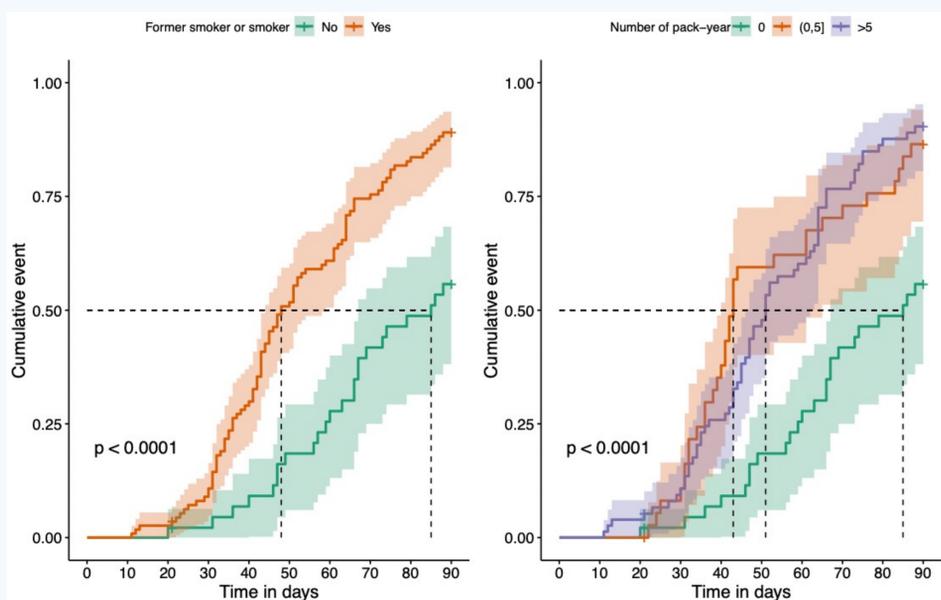
Logistic regression was used to explore the factors associated with healing. Kaplan-Meier survival analysis was used to observe the time from surgery to the end of healing of the most important wound. Cumulative event curves were plotted. All analyses were performed with R software version 4.0.3.

## RESULTATS

160 patients (64% women) were included with 70 operated axillae, 73 inguino-perineal and 17 other localizations. Demographic characteristics are in table 1.

Our Kaplan-Meier analysis found a surprising fact: smoking increases the chance of wound healing. Indeed, we found a significant impact with a  $p < 0.0001$  in case of smoking.

Figure 1: Kaplan-Meier survival analysis and healing time



To better analyze this, a study with consumption was also carried out. The result is similar with  $p < 0.0001$ . Our logistic regression found in multivariate that smoking increases the chance of healing by a factor of 5.61 regardless of Hurley's stage or treatment (OR: 5.18 (2.19-12.82,  $p < 0.001$ )).

Table 1: Patient's characteristics

Variable	n	%	IC
Sex (female/male)	103/57	64.4%-35.6%	[56.6-72.1]/ [27.9-43.4]
Age (years) mean	32.5	±11.1	[30.8 - 34.3]
BMI	27.1	±5.7	[26.3 - 28]
ASA Status >2	63	39.9%	[31.9-47.8]
Smoking (yes)	114	71.2%	[63.9-78.6]
Nombre de paquet par année			
moy (ET)	10.9	(9.7)	[9 - 12.7]
med (iiq)	8	(4 - 15)	[8-10]
Medical treatment (yes)	133	83.6%	[77.6-89.7]
Hurley stage			
1	4	2.5%	[0-5.3]
2	91	57.6%	[49.6-65.6]
3	63	39.9%	[31.9-47.8]
Wound size (cm <sup>2</sup> )	55.2	±80	[42.7 - 67.7]
Time of complete wound healing (days)	74.6	±61.1	[64.9 - 84.4]

Table 2: Multivariate analysis

Variable	Healing time < 90 days	Healing time < 90 days	OR univariable	p value	OR (multivariable)	p value
Smoker or former smoker	No	22 (47.8)	24 (52.2)	-	-	-
	yes	16 (14.0)	98 (86.0)	5.61 (2.59-12.51)	<0.001	5.18 (2.19-12.82)
Inflammatory disease	No	33 (22.0)	117 (78.0)	-	-	-
	yes	5 (50.0)	5 (50.0)	0.28 (0.07-1.07)	0.056	0.17 (0.04-0.73)
Excision localization	Other	10 (11.1)	80 (88.9)	-	-	-
	Axillary	28 (40.0)	42 (60.0)	0.19 (0.08-0.41)	<0.001	0.20 (0.08-0.49)
Hurley stage 3	No	16 (16.8)	79 (83.2)	-	-	-
	Yes	21 (33.3)	42 (66.7)	0.41 (0.19-0.85)	0.018	-
Actual treatment	No	10 (38.5)	16 (61.5)	-	-	-
	Yes	28 (21.1)	105 (78.9)	2.34 (0.94-5.68)	0.062	4.09 (1.39-12.36)

## CONCLUSION

Smoking patients have a higher chance of healing than non-smokers, regardless of disease stage or treatment. These results are more than surprising, especially as they are confirmed in multivariate analysis. Genetics and cytokines must have a role that needs to be clarified.