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PAIN AND ITCH CHARACTERISTICS AND PROPOSED MECHANISM IN NEUROFIBROMA

Quoc Thao Trang Pham¹, Chung-Ping Liao^{1,2}, Hao-Jui Weng^{1,3,4}

- 1 International Ph.D. Program in Cell Therapy and Regenerative Medicine, College of Medicine, Taipei Medical University, Taipei 11031, Taiwan. Email: d151110001@tmu.edu.tw
- 2 Graduate Institute of Medical Sciences, College of Medicine, Taipei Medical University, Taipei 11031, Taiwan
- 3 Graduate Institute of Clinical Medicine, College of Medicine, Taipei Medical University, Taipei 11031, Taiwan
- 4 Department of Dermatology, Taipei Medical University-Shuang Ho Hospital, New Taipei City 23561, Taiwan



Abstract

Pain and itch commonly accompany malignant diseases, posing significant challenges for effective management of cancer patients. In cutaneous neurofibroma (cNF), both pain and itch further diminish patients' quality of life. Understanding the underlying causes of these symptoms and developing successful treatments are ongoing pursuits. Recent research has highlighted the role of emerging inflammatory chemokines, such as the CXCL10/CXCR3 axis, in neurofibroma progression and its pain and itch disorders. Our study aims to evaluate the correlation between CXCL10/CXCR3 and the clinical or pathological features of pain and itch cutaneous neurofibromas.

Introduction

Cutaneous neurofibroma (NF) is a common type of neurofibroma and has a variability of its clinical manifestation of itch and pain. These neurological symptoms affect negatively the quality of life for NF patients. The NF formation has been known as being regulated by surrounding microenvironments in which inflammation is a main contributor. However, understanding the comprehensive characterization and underlying mechanisms of pain and itch in NF has remained unclear until now.

Methods

- Clinical evaluation:

- Distribution of skin lesion
- Itch: Eppendorf Itch Questionnaire (EIQ)
- Pain: McGill Pain Questionnaire (MPQ)
- Tumor size (cm³): gross examination

- Pathologic evaluation:

- H&E staining
- IHC: S100 expression, chemokine
- Tumor depth (μm)

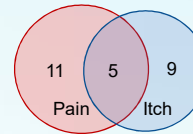
Results

Dermographic data of 42 NF tumors

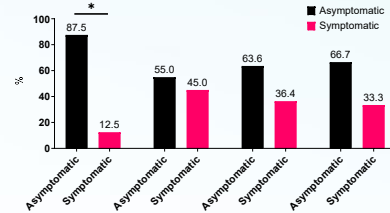
	Overall	No symptom	Itch	Pain
n	42	27	9	11
Gender (M:F)	19:23	15:12	5:4	10:1
Age (y/o)	59.33±1.83	60.26±1.8	53.56±6.08	56.36±4.36
NRS(1-10)			2.88±0.74	1.89±1

Here, we reported 42 NF tumors in patients diagnosed with neurofibroma by Dermatologist at Department of Dermatology, Taipei Medical University-Shuang Ho Hospital. The average age of our patients was 57.04 ± 1.88 years old.

	Pain (n=11)	No pain (n=31)	p
Male (n=23)	10	13	0.006
Female (n=19)	1	18	



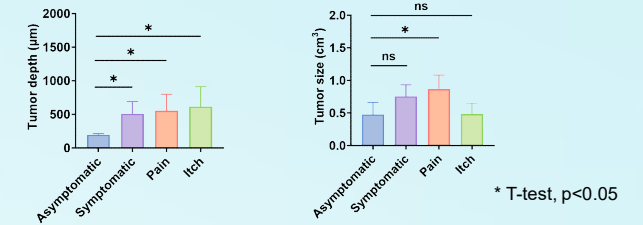
*Fisher's exact test, p<0.05



The asymptomatic sNFs favor locating the head and neck regions.

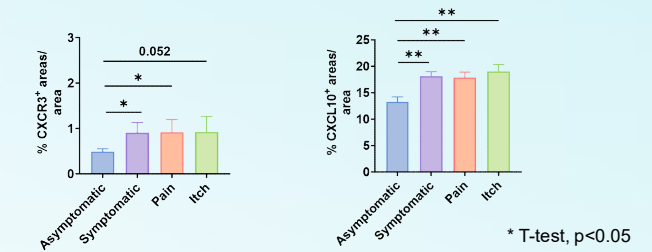
Results

Correlation between tumor size/depth and symptoms



* T-test, p<0.05

Correlation between chemokines and tumor symptoms



* T-test, p<0.05

References

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