

- ardization Management Center” project [J]. Int J Respir, 2022, 42(12):917-921.
- [13] Fakih D, Akiki Z, Junker K, et al. Surfactant protein D multimerization and gene polymorphism in COPD and asthma[J]. Respirology, 2018, 23(3):298-305.
- [14] Moreno D, Garcia A, Lema D, et al. Surfactant protein D in chronic obstructive pulmonary disease (COPD)[J]. Recent Pat Endocr Metab Immune Drug Discov, 2014, 8(1):42-47.
- [15] Issac MS, Ashur W, Mousa H. Genetic polymorphisms of surfactant protein D rs2243639, Interleukin (IL)-1 $\beta$  rs16944 and IL-1RN rs2234663 in chronic obstructive pulmonary disease, healthy smokers, and non-smokers [J]. Mol Diagn Ther, 2014, 18(3):343-354.
- [16] 张婷, 刘丹, 孟静, 等. IL-10、SP-D 基因多态性与糖尿病肾病血液透析肺部感染易感性的关联[J]. 中华医院感染学杂志, 2022, 32(22):3408-3413. Zhang T, Liu D, Meng J, et al. Association of susceptibility to pulmonary infection in diabetic nephropathy patients undergoing hemodialysis with polymorphisms of IL-10 and SP-D genes [J]. Chin J Nosocomiol, 2022, 32(22):3408-3413.
- [17] Ishii T, Hagiwara K, Kamio K, et al. Involvement of surfactant protein D in emphysema revealed by genetic association study[J]. Eur J Hum Genet, 2012, 20(2):230-235.
- [18] 赵龙, 马涛, 陈达, 等. 沈阳地区汉族人群 SP-D 基因 Met11 Thr 多态性与 COPD 易感性的关系[J]. 山东医药, 2014, 54(15):83-85. Zhao L, Ma T, Chen D, et al. Relationship between Met11 Thr polymorphisms of SP-D gene and COPD susceptibility in the Han in Shenyang [J]. Shandong Med J, 2014, 54(15):83-85.
- [19] Liao Y, Huang C, Wang J, et al. Association of surfactant-associated protein d gene polymorphisms with the risk of COPD: a Meta-Analysis [J]. Clinics (Sao Paulo), 2019, 74:e855.
- [20] Obeidat M, Li X, Burgess S, et al. Surfactant protein D is a causal risk factor for COPD: results of Mendelian randomisation [J]. Eur Respir J, 2017, 50(5):1700657.

## 片语健康

### 食物线索反应

面对餐桌上一盘色泽鲜亮、香气扑鼻的菜肴,未及动筷,唾液已分泌。这是一种食物线索反应 (Food cue reactivity), 是生理反应 (生物反应)。除了唾液分泌外,其他由食物线索引起的生理反应以及心率、血压、皮肤传导、胃活动和大脑活动的变化,均可被客观测量。如大脑活动的变化可用功能性磁共振成像 (Functional magnetic resonance imaging, fMRI)、脑电图 (Electroencephalography, EEG)、功能性近红外光谱 (Functional magnetic resonance imaging, fNIRS) 和脑磁图 (Magnetoencephalography, MEG) 测量<sup>[1]</sup>。

街头飘来烤红薯的香气,肚里虽饱,却仍不免心动,买而食之。这也是食物线索反应,是心理反应。心动而身随,买而食之而后快。

很多时候,食物线索反应既是生理的,也是心理的。食物线索反应驱动觅食行为 (Food-seeking behaviors), 这是生存的需要和进化出的本能<sup>[1]</sup>。人类几乎控制不了对食物线索的生理反应,但能节制对食物线索的心理反应。虽然“秀色可餐”,但可以不餐。对食物的痴迷是心理反应。在真饿时,痴迷于美食,是生理需要。在假饿时,还对食物痴迷,就容易“吃多了”。长此以往,人就胖了!

#### 参考文献

- [1] Hayashi D, Edwards C, Emond J A, et al. What is food noise? A conceptual model of food cue reactivity[J]. Nutrients, 2023, 15(22):4089.

(作者:于永利)