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Huge inflammatory myofibroblastic tumor in teenager

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Background: Inflammatory myofibroblastic tumor (IMT) is a rare benign neoplasm. The huge IMT of chest is even rarely observed and there is few literatures described the disease.

Case presentation: A 17-year-old girl who suffered from a dry cough with right chest pain. Contrast-enhanced CT showed a huge heterogeneous mass with calcified plaques. A surgical management strategy was successfully undertaken. Increasing physician awareness of this entity should facilitate recognition of its clinical characteristics and laboratory findings.

Conclusions: This case suggests that a rarely huge and surgically treated IMT in a teenager and concerned with the radioclinical, histopathological, therapeutic aspects of this disease.

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Production of anti-carcinogenic astaxanthin pigment from shrimp waste

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Astaxanthin, an orange–pink β-carotenoid, is a potent anti-oxidant found in nature. It crosses blood-brain and brain-eye barriers, hence is important in treating many disorders and diseases such as cancer. The pink colored appearance to the flesh and carapace of most of the sea animals such as lobsters, crab, shrimps etc. is imparted by astaxanthinCattle and humans do not synthesize astaxanthin pigment naturally. Therefore commercially produced pigment is added into food products such as animal feed, krill oil, etc. In this study, shrimp waste was collected from local hotels of Nashik and Trimbakeshwar. Bacteria were isolated from the body parts of the shrimpsusing de Man- Rogosa – Sharpe and Mac Conkey's media. Overall 28 isolates of *Lactobacillus* from various shrimp body parts viz., head, stomach, tail etc.were obtained and identified using morpho-biochemical characteristics. The microbial Diversity index was determined for body parts of the shrimp on SPC agar plates. Diversity index of stomach and head ranged between 0.99 to 1 indicating high microbial diversity of shrimps. Astaxanthin extracted from dried shrimp waste using hexane/acetone gave 4% recovery (~0.4 g/10 g of shrimp). Microbial fermentation using *Lactobacillus* isolates showed enhanced production up to 8% recovery (~0.8 g/10 g of shrimp). The detection of the extracted pigment was done using thin layer chromatography (TLC). The concentrate was subjected to TLC using silica gel G250 sheet and run with solvent system of hexane:acetone (2:3). Thin layer chromatographic separation of carotenoid extract from shrimp waste produced a distinct band at Rf ~0.3 corresponding to free Astaxanthin. It was further characterized using spectrophotometry with absorption maxima at 473 nm and using High Performance Liquid Chromatography (HPLC). Microbial fermentation was employed for astaxanthin production and fermentation medium was optimised by fractional Factorial Design (FFD) utilizing waste in the form of molasses (1-5%), coconut milk from rotten coconuts (10-30%), whey (1-3%) and soyabean extract (20-60%). By microbial fermentation, the yield of Astaxanthin (g/10 gm of shrimp) was 1.74, 1.46 and 1.14 using various substrates such as 20% soyabean water, 1% molasses and 20% coconut milk respectively. Subsequently, extraction of astaxanthin was also made cost-effective with waste oils viz., sesame, soyabean and mustard oil, collected from Shani temples and local eatery in the town. Molar extinction was estimated and co-related with the final yield of pigment. Astaxanthin yield was made prolific by optimizing both, Production and extraction, production of pigment using microbial fermentation in the presence of eco-substrates and extraction utilizing the waste oils, which being the thrust area of the present work.

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