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Poster & Accepted Abstracts

Title: Deciphering the mechanism of action of SHON gene in breast cancer using CRISPR-Cas9 genomic editing technology**Jiawei Li^{1*}, Yan Li¹, Peng Yuan² and Dong-Xu Liu¹**¹Auckland University of Technology, New Zealand²Chinese Academy of Medical Sciences and Peking Union Medical College, China**Received Date: : February 16, 2023 Accepted Date: February 18, 2023 Published Date: June 20, 2023**

Endocrine therapies currently remain the most effective form of treatment for ER-positive (ER+) breast cancer. However, not all patients will benefit from these treatments. Up to 50% the patients with ER+ tumours are resistant to the therapies either from onset of therapy or soon after therapy, with devastating consequences. SHON, a novel secreted hominoid-specific oncogene, promotes cell proliferation and tumour growth and has also been shown to be a promising biomarker that can accurately predict the response of patients to endocrine treatment in breast cancer. SHON is an estrogen-regulated gene and the expression of SHON is strongly associated with ER expression in breast cancer. However, the molecular mechanism about how SHON drives breast cancer progression and metastasis and mediates endocrine resistance in breast cancer is still not clear. In this project, we utilized the CRISPR-Cas9 gene editing technology to investigate the mechanism of action. Two ER+ breast cancer cell lines MCF-7 and T47D and two ER- breast cancer cell lines MDA-MB-231 and BT549, were used to generate SHON-knockout (+/-, -/-) cells. For comparison, SHON-overexpressing stable cells were also created from these cell lines. The status of SHON gene in single-cell clones was confirmed by both genomic PCR and DNA sequencing. SHON-overexpressing cell clones were confirmed by RT-PCR at the RNA level and Western Blotting at the protein level. We have obtained monoallelic SHON+/- knockout single-cell clones and SHON-overexpressing MCF-7 cell clones. We are still screening for biallelic SHON-/- knockout cell clones. Once all the cell lines are established, a variety of in vivo and in vitro functional assays to delineate the signaling cascades in these cells in the presence and absence of SHON gene. This will improve our understanding of the role of SHON in breast cancer cells.

Biography

Jiawei (Stacey) Li obtained her MD in Clinical Medicine in 2016 and a Master's Degree in 2018 from Jilin University, one of the key universities in China under the Chinese Government's Building World-class University schemes of the "Project 985" and "Project 211". She is now a PhD candidate at the AUT under the supervision of A/Prof Dong-Xu Liu. Her research project is to delineate the mechanism of the SHON breast cancer biomarker using the CRISPR-Cas9 gene editing technique.

Title: Green leaf alcohol: Inhalation therapy and their production**Rakhee^{1*}, Prateek Singh¹, Saleem Javed², Raj Kishore Sharma³ and Bipin Gupta⁴**¹Venkateshwara Mint Products, India²Jamia Millia Islamia, India³University of Delhi, India⁴National Physics Laboratory, India**Received Date: : May 10, 2023 Accepted Date: May 12, 2023 Published Date: June 20, 2023**

This research is intended to be a narrative review of the relevant academic literature as well as the work we have work done in our industry. Leaf alcohol (green aroma) is well known for having a potent, distinctive aroma of fresh grass. Inhaling green aromas such as Trans-3-hexenol, Cis-3-hexenol, Trans-2-hexenol and Cis-2-hexenol, can benefit the airways by acting as an antioxidant and an anti-inflammatory. Pharmacological activity of these leaf alcohols absorbed through inhalation may be also beneficial to promote brain functions by decreasing mental fatigue, inducing relaxation and improving cognitive performance and mood. It is frequently used in industries including beverages, confectionery, flavoring, personal care products, perfumery, oral care, nutraceuticals and pharmaceuticals (to reduce schizoid tendencies, antifungal activity, anticancer, antistress and antimicrobial activity). Its esters are frequently used as flavoring and fragrance ingredients. Currently, there are two ways to prepare cis-3-hexenol in industrial production: biosynthetic and synthetic. But due to the market's inability to keep up with the increase in demand, leaf alcohol is frequently in short supply. The difficulty and shortcomings of the current techniques for producing leaf alcohol are the cause of the shortage.

A high yield method is developed for leaf alcohol to prepare "Trans-3-hexenol and Cis-3-hexenol" in our industry. The photo reactor technique is used in the presence of UV light and is easy, practical, affordable and environmentally friendly.

These findings may have beneficial ramifications for landscape design, public wellness and personal happiness on bigger scales.

This abstract discusses the industrial production of natural products, the productivity-boosting effects of new technologies and the positive effects on psychological and physiological health.

Keywords: Cis-3-hexenol, Trans-3-hexenol, Photo reactor.

Biography

Rakhee is currently working as Research scientist in Venkateshwara Mint Products, Pvt. Ltd. Company and Savory Aroma India Pvt. Ltd. Company in India. She is expertise in synthesis of natural products, API intermediates in industrial level such as Cis-3-hexenol, Cis-3-hexyn-1-ol, Benzyl alcohol etc. She manages the manufacturing of flavors, fragrances, essential oil, perfume, aromatic compounds, natural extract etc.

Title: Application of transthoracic lateral single-hole non-liposuction endoscopy to immediate prosthetic breast reconstruction in early breast cancer**Chengcai Yao**

South China University of Technology, China

Received Date: : Dec 30, 2022 Accepted Date: Jan 02, 2023 Published Date: June 20, 2023

Statement of the problem: The quest for beauty is never-ending for women with breast cancer, so to ensure a successful treatment of the tumour, traceless surgical incisions are a consideration for surgeons. Endoscopic or robotic minimally invasive surgery may be the perfect solution to this problem, but currently endoscopic surgery is rarely performed in breast surgery for a variety of reasons, such as lack of natural space in the breast, immature technology and excessive length of operation.

Objective: The objective of this study was to investigate the efficacy of transthoracic lateral single-hole non-liposuction endoscopy in Nipple Sparing Mastectomy (NSM) with Immediate Prosthesis Breast Reconstruction (IPBR).

Methodology: The clinicopathologic data of 42 patients with EBC who underwent endoscopic NSM and IPBR in the Department of Breast Surgery of our hospital from February 2020 to July 2022 were collected and the success rate of surgery, operation time, intraoperative conditions, postoperative complications, aesthetic effect of breast reconstruction and short-term oncology safety were analyzed.

Finding: All the 42 patients successfully completed the operation, with a success rate of 100%. 12 patients were completed operation with (210.17 ± 9.87) minutes in the first year after the original procedure began and 30 patients with (155.36 ± 2.42) minutes after the first year and there was a difference between the two groups. There were also differences in intraoperative blood loss and postoperative drainage volume between the two groups, but no difference in extubation time. The postoperative complications and the aesthetic effect of breast reconstruction were not different. The 42 patients were average follow-up of 18.8 months. None of the patients had a recurrence or distant metastasis [Figure 1].

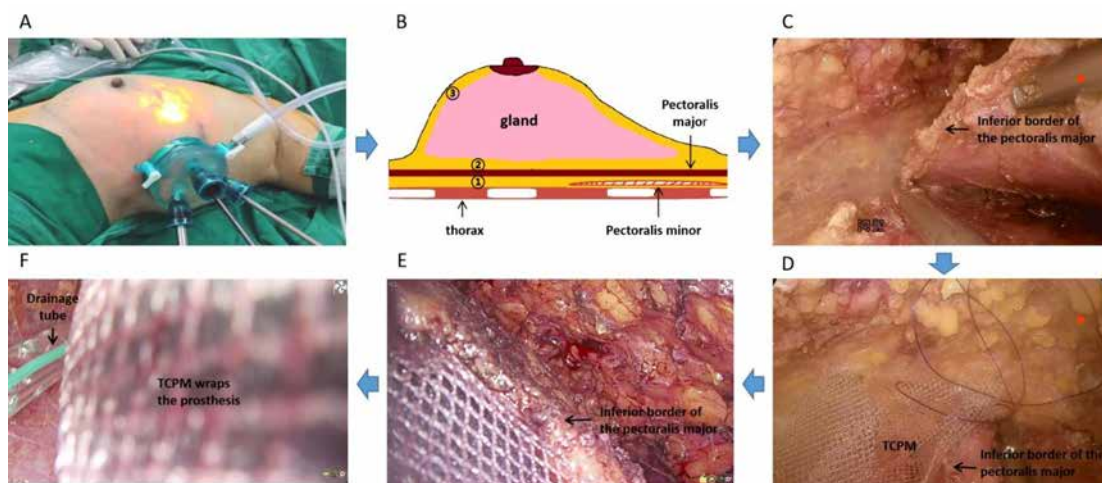


Figure 1. Flow charts of NSM and immediate breast reconstruction (A→F). (A) Shows the patient's position and lateral thoracic single-hole incision with disposable endoscopic dilator for surgery. (B) Schematic diagram of the surgical sequence of the NSM "reverse method": Posterior space of the pectoralis major→Posterior space of the breast→free flap. (C) The lower margin of the major pectoralis is surgically severed. (D) Shows the lower margin of pectoralis major and TCPM suture forming a "pouch". (E) Here is a "pouch" covering prosthesis of the pectoralis major combined with TCPM. (F) TCPM fully wrapped prosthesis with a drainage tube underneath.

Conclusions: Transthoracic lateral single-hole non-liposuction endoscopy technique for IBPR of EBC: (1) high success rate of surgery, fewer postoperative complications, good aesthetic effect and high safety of oncology; (2) Skillful practice can shorten the operation time, improve intraoperative conditions and improve surgical efficiency.

Biography

Chengcai Yao is the director and academic leader of the Department of Breast Surgery at the Sixth Affiliated Hospital of South China University of Technology, PRC. He is also a member of the breast disease branch of the Guangdong Medical Association, the breast surgery branch of the Guangdong Medical Association and the breast cancer branch of the Guangdong Anticancer Association. He is also a youthful and middle-aged editorial member of the "Chinese Journal of Breast Diseases (electronic edition)" and the "Chinese Journal of General Surgery". He is primarily engaged in basic and clinical breast cancer research, with a particular focus on minimally invasive laparoscopic surgery for early-stage breast cancer and mechanisms of drug resistance to chemotherapy..

Title: Dietary patterns and risk of breast cancer: Case control study in the west of Iran**Behjat Marzbani**

Kermanshah University of Medical Sciences, Iran

Received Date: : Feb 01, 2023 Accepted Date: Feb 03, 2023 Published Date: June 20, 2023

The aim of this Breast cancer is the leading cause of cancer related deaths among women all over the world. Unhealthy dietary patterns are the most important changeable risk factors in its incidence. The aim of this study is to assess the relationship between diet patterns and the risk of breast cancer among women in the west of Iran. All under 50 women with positive pathology of breast cancer between 2013-2015 who were referred to the radiation therapy, oncology and chemotherapy clinics of referral center of cancer diagnosis in the west of Iran (Imam Reza hospital) were selected as the cases 212 persons and 408 under 50 women referred to other outpatient clinics of the same hospital who were without breast or other cancers at the time of study and two years later were selected as the control group. The data were collected using periodical care form of Iran Health. The most powerful risk factor for breast cancer was fried foods, so that the odds ratio of breast cancer in women consuming fried foods more than once a month was higher than women who have consumed it once or lower in a month. There was a non-linear relationship between breast cancer and food consumption. Consumption and non-consumption of fast foods, junk foods and carbonate beverages increase the odds of breast cancer. Dose-response model indicated that increasing vegetables and fruits consumption to 60 times a month decrease the odds of breast cancer, but more than 60 times a month can increase breast cancer. Inadequate consumption of vegetables and soft drinks, industrial juices, fried foods and sweetmeat are as the risk factors for breast cancer, so sensitization, informing and education about healthy diets seem necessary [Figure 1].

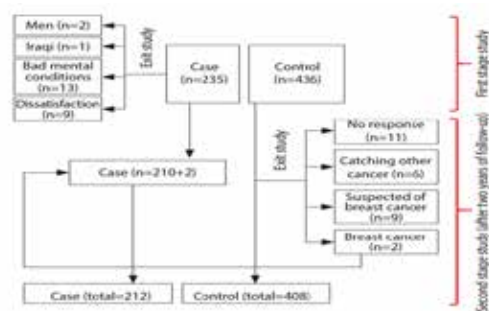


Figure 1. Flowchart of the research process.

Figure 1. Flowchart of the research process**Biography**

Behjat Marzbani is a member of the Research Council of Kermanshah Behavioral Diseases Research Center. She has 4 ISI articles, 8 completed research projects and 21 accepted articles in conferences. She has taught at Kermanshah Azad University and collaborated in the training and education of Kermanshah public health students. During her service, the responsibilities she held include: health care provider, family health unit manager, marriage counseling unit consultant, thalassemia expert, elderly program expert, health education and health promotion department expert of Kermanshah province health center. Her main research interests are: Conducting research on the role of companion health applications in the field of preventive care, conducting research in the field of health promotion approaches to empower people and communities.

Title: Clinically node negative T4B breast cancer is a poor indication of axillary clearance: A single center experience**Abhishek Sharma*, Pragati Singhal, Sanjit Agrawal and Rosina Ahmed**

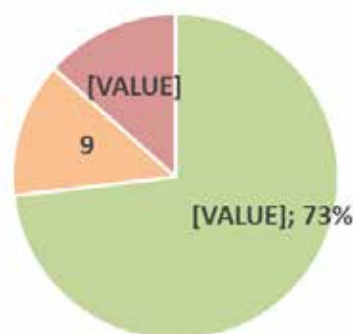
Tata Medical Center, India

Received Date: : Jan 06, 2023 Accepted Date: Jan 08, 2023 Published Date: June 20, 2023

Introduction/Aims: Sentinel Lymph Node Biopsy (SLNB) is the procedure of choice for axillary treatment in clinically node negative early breast cancer, but it is debatable in T3 and particularly in T4 breast cancer. Traditionally, T4b breast cancer characterized by skin nodule, ulceration or Peau D Orange edema is treated with routine axillary dissection (ALND), even in clinically node negative disease. However, if nodal involvement is low in this subset, this morbidity may be avoided by doing SLNB. This study aims to find the actual number of involved nodes in clinical node negative T4b breast cancer patients who underwent axillary dissection. We report one of the largest datasets of T4B breast cancer lesions from India.

Materials and methods: This is a retrospective, observational study of patients treated for breast cancer in between 2011 and 2021, with T4b tumors using AJCC 8 criterion at TATA medical Center Kolkata. Patient records were retrieved from REDCAP database.

Results: 437 patients with T4b disease were operated between 2011-2021. The median age of patients was 54 years (IQR: 46-63 years). The median tumor size was 6 cm (IQR: 1–8 cm). 67 out of 437 patients (15.33 %) patients were clinically and radiologically node negative. Amongst 67 patients 49 patients (73.13%) had no nodal involvement on final histology while 9 patients (13.43%) had 4 or more nodes involved [Figure 1].

**Figure 1.** Flowchart of the research process

Conclusion: 73.13% (49/67) of clinically node negative T4b breast cancer patients had no positive nodes on final histology. Clinically node negative T4b breast cancer is a poor indication for axillary clearance and these patients should be considered for SLNB to avoid axillary morbidity.

Biography: Sharma is presently employed as Consultant in Breast Surgery department in Tata Medical Centre Kolkata, India. He started his medical career from West Bengal. He was a distinction holder in his MBBS. After his bachelor degree, he completed his masters in surgery from Bangalore Medical College in 2011.

Title: The effectiveness of educational program in improving breast cancer screening knowledge and practice among women in Malaysia

Sarah Noman

Universiti Putra Malaysia, Malaysia

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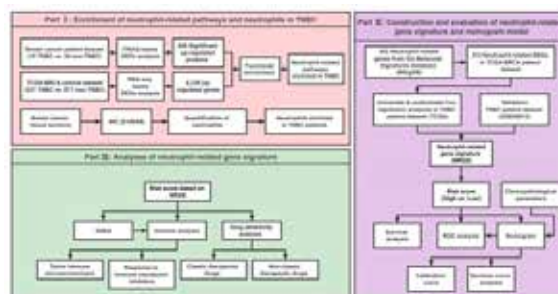
Breast Cancer (BC) is the most frequently diagnosed cancer among women worldwide. The role of teachers in educating students plays a vital role in the promotion of healthy behavior such as Breast Cancer Screening (BCS). This study aims to develop and evaluate the effectiveness of an educational program on BCS. The highlighted outcomes include BCS knowledge and practice. A randomized controlled trial was conducted among 180 Arabic women in Malaysia. The intervention group were offered an educational program on BCS prior the intervention. The data were collected at baseline and three-months post intervention using valid and reliable Arabic questionnaires. Data analysis was performed using the SPSS software 22.0. Chi-square test and the independent sample t-test with a confidence interval of 95% and P-value less than 0.05 were conducted to assess the differences between the groups. Results demonstrated there were no statistically significant differences between the two groups regarding the respondents' characteristics and the outcome variables at baseline. Following the intervention, however, the groups demonstrated significant higher changes in Breast Self-Examination (BSE) and in Clinical Breast Examination (CBE) for the intervention group than the control group. Breast self-examination performing was reported by 81.1% of the respondents in the intervention group compared with only 25.6 % in the control group ($P < 0.01$). More than one-third of respondents in the intervention group reported having practiced CBE (36.7%) compared with only 21.1% in the control group with a significant difference between the two groups ($P = 0.021$). However, there was no significant difference between the two groups on Mammography (MMG) performance ($P = 0.756$). For the knowledge of BC, there was a significant difference between the two groups ($P < 0.01$). The intervention group displays a significant increase in the knowledge of BC after the intervention 27.55 ($SD = 3.03$) than the control group 17.60 ($SD = 5.01$). These results show the effectiveness of educational program in improving knowledge and practice of BCS.

Biography

Sarah completed her PhD in 2021 from Universiti Putra Malaysia. She works as a data analyst. She has published several scientific articles in high impact ISI-indexed journals. Currently, she is a reviewer in some scientific journals. Her area of expertise is engulfed around community health issues such as breast cancer, cancer screening behaviors, knowledge, awareness, health beliefs, vaccine hesitancy, educational programs, health research methodology, systematic review and meta-analysis.

Title: A neutrophil-related gene signature predicts immune status and sensitivity to nuclear receptor-targeting agents in triple-negative breast cancer**Muyao Wu, Lian Xue, Xi Xu, Siyu Ding, Guangchun He, Chanjuan Zheng and Xiyun Deng***

Hunan Normal University, China

Received Date: : October 01, 2022 Accepted Date: October 03, 2022 Published Date: June 20, 2023**Purpose:** To develop a neutrophil-related gene signature that can be used to predict survival outcomes and identify potential therapeutic drugs for Triple-Negative Breast Cancer (TNBC) patients.**Design:** iTRAQ-based proteomics analysis of breast cancer tissues and bioinformatics analysis of the TCGA-BRCA dataset were performed to evaluate the pathways enriched in TNBC. Immunohistochemistry was used to determine neutrophil infiltration in TNBC. Univariate and multivariate Cox analyses were performed on TNBC patients from TCGA-BRCA dataset to derive a Neutrophil-Related Gene Signature (NRGS). A nomogram model was generated to predict survival outcomes of TNBC patients. A Gene Expression Omnibus (GEO) dataset was used for independent validation. The NRGS was analyzed for tumor immune microenvironment and response to immune checkpoint inhibitors as well as sensitivity to therapeutic drugs.**Results:** Through iTRAQ-based proteomics profiling and TCGA-BRCA dataset mining, we found neutrophil-related pathways as the top enriched pathways in TNBC. A higher level of neutrophil infiltration was demonstrated by immunohistochemistry on TNBC compared with non-TNBC tissues. A 9-gene NRGS was identified and used to derive a risk score to stratify TNBC patients into high- and low-risk groups. A nomogram model with superior predicting power was generated via incorporating the NRGS with clinicopathological parameters. High-risk TNBC patients were associated with immune suppression and were less sensitive to immune checkpoint inhibitors. Furthermore, we found high-risk TNBC patients had enhanced sensitivity to nuclear receptor-targeting agents [Figure 1].**Conclusion:** A neutrophil-related gene signature could predict decreased sensitivity to immune checkpoint inhibitors but increased sensitivity to nuclear receptor-targeting agents in high-risk TNBC patients.**Figure 1.** Part I: Enrichment of neutrophil-related pathways and neutrophils in TNBC. Part II: Construction and evaluation of neutrophil-related gene signature and nomogram model. Part III: Analyses of neutrophil-related gene signature.**Biography**

Xiyun Deng is a professor of Pathophysiology, chair of Department of Basic Medical Sciences, and director of Key Laboratory of Translational Cancer Stem Cell Research at Hunan Normal University. His research focuses on experimental therapeutics targeting cancer stem cells and the tumor microenvironment.

Title: Risk reducing mastectomy, when should we do it?

Rabbia Khan

Royal College of Surgeons, UAE

Received Date: : May 22, 2023 Accepted Date: May 24, 2023 Published Date: June 20, 2023

BACKGROUND: Recent progress in understanding the genetic basis of breast cancer and widely publicized reports of celebrities undergoing risk-reducing mastectomy (RRM) have increased interest in RRM as a method of preventing breast cancer.

A generalized concern has been raised regarding the trend toward an over-aggressive surgical approach to breast cancer because even if RRM is nowadays a routine operation, it still remains a major intervention, with potentially protracted recovery, risk for serious complications, and long-term sequelae. It is therefore very important for physicians to be aware of this tendency, its drivers, and the evidence-based data.

METHODS: We looked at our data from Mediclinic cancer comprehensive center and determined the rate of risk reducing mastectomy, prophylactic mastectomy (ipsilateral and contralateral) and their relation with genetic mutation or family history.

We excluded the survival benefit and rate of recurrence as we still need to observe these patients for at least 5 years to determine that.

OBSERVATION: Majority of the decisions were made out of fear for not having the cancer back. Aesthetics reasons were rare. However fewer patients opted due to genetic mutation as well.

Biography

Dr Khan is a Consultant Breast and General surgeon who specialises in breast cancer. She is a Fellow of the American College of Surgeons and College of Physicians and Surgeons of Pakistan. She is a Member of the Royal College of Surgeons, Glasgow, UK. Dr. Rabbia, after completing her basic education in Pakistan, went to Glasgow, France and Hungary for higher studies. Her length of experience in the field of surgery is over 10 years.

Dr Khan has a fellowship in oncoplastic and reconstructive breast surgery from the National Institute of Oncology, Budapest, Hungary. She is skilled in the oncoplastic techniques involved in breast conserving surgery as well as reconstructing the breast. Breast reduction and augmentation for cosmetic purpose is also one of her areas of expertise.

Dr Rabbia takes active participation in research work, and has had multiple publications throughout her career. Her research work has been published in multiple international journals. She is associated with Mohammad bin Rashid University of Medical Sciences and is involved in teaching medical students and interns. Being a female surgeon, she is also capable of dealing with anal issues of females. Her main interests are breast cancer surgery with oncoplastic techniques. She can also perform minor anal surgeries. Dr Rabbia Khan is part of our Breast Unit in the Comprehensive Cancer Centre, which offers complete and advanced treatment and prevention of breast cancer, including general and high-risk screening, treatment for not only cancer but also high risk lesions and benign lumps. She is an active member of multidisciplinary tumour board meetings and has annual participation in international congresses of the American College of Surgeons.