



## Case Report

# Long-term Complete Remission of a Patient with Invasive Ductal and Lobular Breast Cancer Treated with Chinese Herbal Medicine After Lumpectomy: A 15-Year Follow-up Case Report

Henry Liang<sup>1\*</sup>, Jessica Guo<sup>2</sup>, Chun Guang Li<sup>3</sup>

<sup>1</sup>School of Health Sciences, Western Sydney University, Sydney, NSW, Australia

<sup>2</sup>Dr Henry Liang Clinic, Sydney, NSW, Australia

<sup>3</sup>NICM Health Research Institute, Western Sydney University, NSW, Australia

**\*Corresponding Authors:** Henry Liang, School of Health Sciences, Western Sydney University, Sydney, NSW, Australia

**Citation:** Liang H, Guo J, Li CG (2024) Long-term Complete Remission of a Patient with Invasive Ductal and Lobular Breast Cancer Treated with Chinese Herbal Medicine After Lumpectomy: A 15-Year Follow-up Case Report. Curr Res Cmpl Alt Med 8: 224. DOI: 10.29011/2577-2201.100224

**Received Date:** 10 January 2024; **Accepted Date:** 16 January 2024; **Published Date:** 19 January 2024

### Abstract

Breast cancer is one of the leading causes of cancer incidence and mortality globally. Although there are multiple conventional therapies for breast cancer, the adverse effects associated with these therapies and the higher recurrence rate of breast cancer have created substantial clinical problems and challenges. We herein report that a 68-year Caucasian female who suffered from early-stage breast cancer with estrogen and progesterone receptor positive has achieved long-term complete remission and excellent quality of life after lumpectomy and maintenance with Chinese herbal medicine. Most of the prescriptions of Chinese herbal medicine for her condition were based on two classical Chinese herbal formulas, *Xiao Chai Hu Tang* and *Si Ni San*, which were used by the patient almost every day from November 2006 to November 2011; and every second to third day from January 2012 to 2015. Follow-up breast ultrasounds and infrared thermographies showed that no recurrent or metastatic lesions were seen. In addition, her regular blood tests demonstrated that her blood counts and liver and kidney functions were in the normal ranges. The patient has been living and enjoying an excellent quality of life for over 15 years. This case study provides a potential alternative option of maintenance care for breast cancer patients.

**Keywords:** Breast cancer; Chinese herbal medicine; Maintenance therapy; Complete remission; Long-term survival; Case report

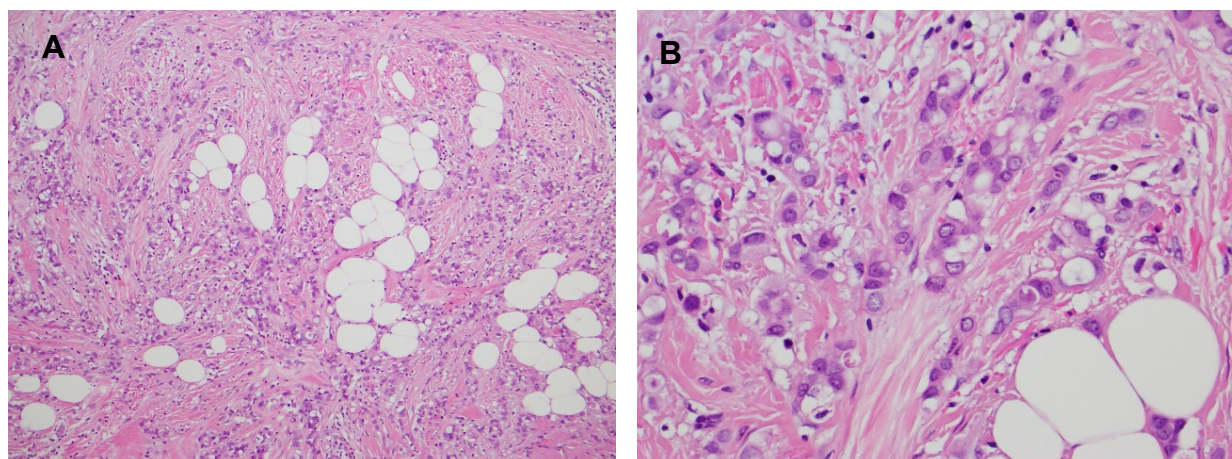
## Introduction

Breast cancer (BC) is the leading cause of global cancer incidence and the fifth leading cause of cancer mortality in 2020 [1]. Ductal and lobular carcinomas are the most common subtypes of invasive breast carcinoma. These invasive carcinomas could be mixed, which is a distinct clinicopathologic entity, accounting for 6% of BC cases [2]. BC treatments mainly include surgery and adjuvant therapies such as radiotherapy, chemotherapy, endocrine therapy, targeted therapy, and immunotherapy. Although these therapies have been continually improved and the survival rate of BC patients is comparatively higher, most of the adjuvant medicines could cause severe adverse effects, and the tumour might develop resistance to these medicines [3]. Therefore, the BC recurrence rate is higher. A meta-analysis of 88 trials involving 62,923 women with estrogen receptor positive BC revealed that after 5 years of adjuvant endocrine therapy, BC recurrences continued to occur steadily from 5 to 20 years [4]. Patients with BC commonly use complementary and integrative therapies, including Chinese medicine, as supportive care during cancer treatment and to manage treatment-related adverse effects [5]. However, Chinese medicine used as a maintenance treatment after surgery for BC is not common. Herein, we report a case of mixed ductal and lobular invasive carcinoma that was undertaken with Chinese herbal medicine for maintenance care after lumpectomy and achieved long-term complete remission.

## Case Presentation

A 68-year Caucasian female was found with a lump of 9.5mm in size in her right breast by a general check-up with a mammogram in September 2006. The lump was further investigated with histopathology, which showed an invasive carcinoma with ductal and lobular features, grade 2 (Figure 1). Immunohistochemical stain indicated that estrogen receptor (ER) and progesterone receptor (PR) were positive and human epidermal

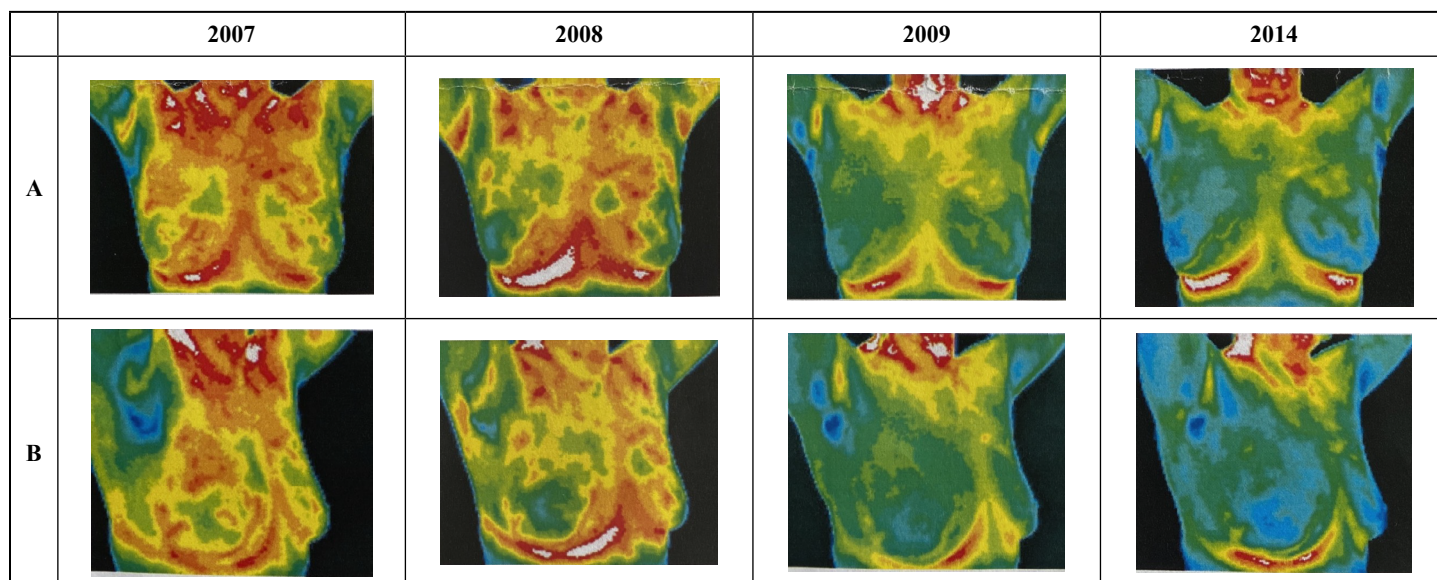
growth factor receptor 2 (HER2) negative. Her body computerised tomography (CT) scan showed no relevant lymph nodes involved, and no distant metastasis was seen. The patient had lived alone for over ten years and had a history of stress and anxiety but didn't take anti-depression medicines. Her mother had BC and died from heart disease. After being diagnosed with BC, the patient was advised by oncologists to have surgery to remove the tumour and consider further treatments with radiotherapy, followed by endocrine therapy. The patient accepted lumpectomy but declined other therapies and sought other opinions. She was referred to our clinic in Sydney and was willing to comply with Chinese medicine management. The patient's first visit to our clinic was in November 2006, presenting distress in the chest, full sensation in the abdomen, dry mouth with a bitter taste and emotional stress. Chinese medicine assessment revealed her tongue colour was slightly red with a white coating; her pulse was wiry. Following the guidelines for Safe Chinese Herbal Medicine (CHM) Practice of the Chinese Medicine Board of Australia, we provided CHM for this patient regularly. The CHM products were ordered from wholesalers in Australia. The prescriptions for her condition were based on two classical Chinese herbal formulas, *Xiao Chai Hu Tang* and *Si Ni San*. The basic prescription includes *Bupleurum chinense* 8 grams (g), *Paeonia lactiflora* 12 g, *Citrus aurantium* 10 g, *Scutellaria baicalensis* 12 g, *Codonopsis pilosula* 15 g, *Glycyrrhiza uralensis* 5 g, *Rabdosia rubescens* 20 g, *Prunella vulgaris* 15 g, *Hedyotis diffusa* 20 g, and *Pinellia ternate prepared* 10 g. The CHMs were used by the patient almost every day from November 2006 to November 2011; and every second to third day from January 2012 to 2015. The herbs in the prescriptions were amended sometimes according to the patient's responses. The CHM was administered daily in two separate decoctions: for the first decoction, 1000ml of cold water was added to the herbal mixture, which was then boiled for approximately fifty minutes to reduce the volume to about 250ml. This decoction was taken each morning. The remaining herbal mixture was used for making a second decoction which was taken each afternoon. This was prepared by using 750ml of cold water and boiled for approximately thirty minutes to reduce the volume to about 200ml.

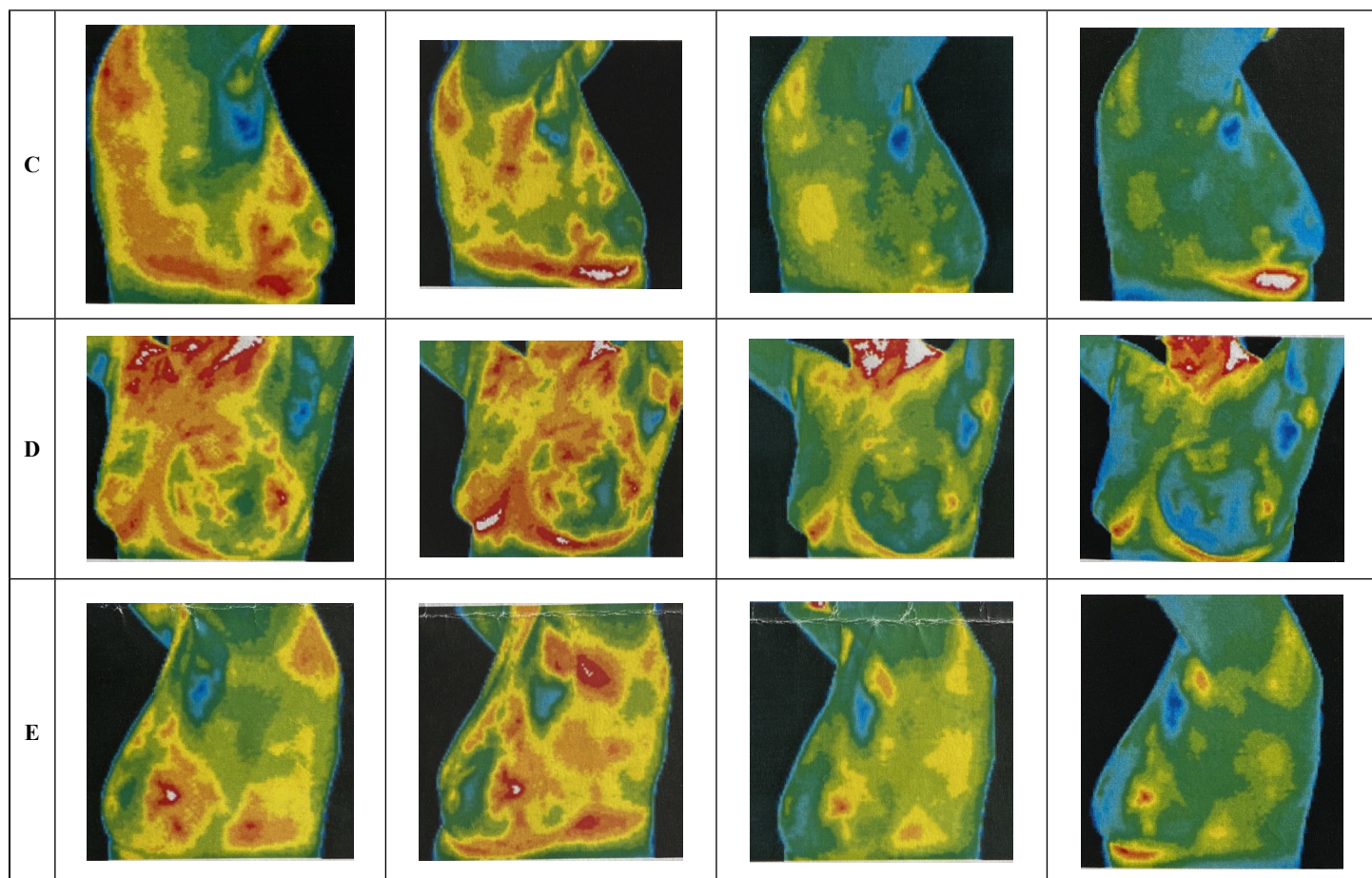


**Figure 1:** Histopathology photographs. Histopathology (A & B) showed invasive carcinoma with ductal and lobular features, grade 2. (A: H&E stained, medium power x 100; B: H&E stained, high power x 400).

## Results

After three weeks of the above CHM treatment, the patient’s symptoms of dry mouth with bitter taste disappeared, her distress in the chest and full sensation in the abdomen were relieved. After three months of the treatment, her emotional stress was much reduced. Breast ultrasounds in 2006 and 2007 showed that no suspicious lesion was seen. Her breast condition had been monitored by infrared thermography (IT) every year from 2007 to 2014 (Figure 2). Her IT, taken in 2007 and 2008, presented with brighter colours (red, orange, and yellow) that revealed a global increase in thermal activity throughout both breasts. There was additional thermal enhancement noted at the three o’clock position of the left lateral breast. Comparatively, IT in 2009 & 2014 revealed darker colours (blue and dark green), indicating the stable condition of both breasts with no thermal evidence of evolving pathology. In addition, her regular blood tests demonstrated that her blood counts and liver and kidney functions were in the normal ranges. Follow-ups until March November 2021 found that the patient has been living and enjoying an excellent quality of life for over 15 years.





**Figure 2:** Breast thermography. **2007:** A mild global increase in thermal activity is noted throughout both breasts. There is additional thermal enhancement noted at the three o'clock position of the left lateral breast. **2008:** The overall thermal pattern and temperature differentials in the right breast have remained stable. A focus of distinct hyperthermia persists along the three o'clock position of the lateral breast. **2009 and 2014:** the thermal findings in both breasts remain stable with no current thermal evidence of evolving pathology. **Note:** Positions (A) Front, (B) Right Lateral 45°, (C) Right Lateral 90°, (D) Left Lateral 45°, (E) and Left Lateral 90°

## Discussion

Conventional therapies for the present case with early stage of BC, ER and PR positives mainly include surgery, followed by long-term endocrine therapy (ET). Surgical resection of the tumour is exceptional for the early stage of BC, while ET is considered standard adjuvant therapy for ER and PR positive BC [6]. ET can suppress hormone production or interfere with hormone receptor signalling since these tumours are driven by estrogen. Therefore, ET demonstrates clinical benefits in terms of cancer recurrence reduction and patient survival prolongation. Commonly used ET drugs include tamoxifen and aromatase inhibitors (AIs), such as letrozole, anastrozole and exemestane, which are recommended to be used for at least five years [7]. Despite their clinical benefits, unfortunately, there are poor adherence and lower persistence to

ET among BC patients. Studies have reported that non-adherence rates for tamoxifen range from 12-59%, and 9-50% for AIs. In addition, non-persistence within the recommended 5-year treatment is between 31% and 73% [8]. The most reported reason for non-adherence and non-persistence to ET is the adverse effects including hot flushes, muscle and joint pain, weight gain, fatigue, depression, difficulty concentrating, vaginal dryness, low libido, and low esteem. Furthermore, there is an increased risk of fractures and cardiovascular events with AIs treatment, and an increased risk of thromboembolic events and endometrial cancer with tamoxifen treatment [9]. Therefore, it is not difficult to understand that the present BC patient declined long-term ET treatment after the lumpectomy. With about 8-year Chinese medicine treatment instead of ET, this patient has achieved a complete remission of BC from 2006 to the present and an excellent quality of life. To

the best of our knowledge, this is the first case demonstrating a successful Chinese medicine as an alternative maintenance therapy in a hormone receptor positive BC patient.

The herbal prescription for the present case is based on the classical Chinese herbal formulas, *Xiao Chaihu Tang* (XCT) and *Sini San* (SNS). XCT contains *Bupleurum chinense*, *Scutellaria baicalensis*, *Codonopsis pilosula*, *Glycyrrhiza uralensis*, *Pinellia ternate*, *Zingiber officinale* and *Ziziphus jujuba*, which demonstrates multiple anticancer actions including growth inhibition of the cancer cells, apoptosis induction, angiogenesis inhibition, as well as immune function enhancement [10]. While SNS, including *Bupleurum chinense*, *Paeonia lactiflora*, *Citrus aurantium* and *Glycyrrhiza uralensis*, can relieve chronic psychological stress induced by BC [11]. The herbal prescriptions were added by *Rabdosia rubescens*, *Prunella vulgaris* and *Hedyotis diffusa* which possess anti-cancer properties. *Oridonin*, one of the active anticancer components in *Rabdosia rubescens*, inhibited tumour cell invasion and migration and tumour angiogenesis which were mediated by suppressing EMT and the HIF-1 $\alpha$ /VEGF signalling pathway [12]. *Prunella vulgaris* inhibits MCF-5 human BC via suppression of angiogenesis, induction of apoptosis, cell cycle arrest and modulation of PI3K/AKT signalling pathway [13]. While *Hedyotis diffusa* demonstrates anti-inflammatory activities and multiple anticancer properties which mainly acts on NF- $\kappa$ B, MAPK, 5-LOX signalling pathways [14]. Interestingly, the herbs *Scutellaria baicalensis*, *Rabdosia rubescens*, *Prunella vulgaris* and *Hedyotis diffusa* are in the category of clearing heat and toxin in Chinese medicine. During the CHMs treatment, the IT heat pattern changed from a warmer (red, orange, and yellow colours) to cooler (blue and dark green colours) temperature distribution (Fig. 2). These changes indicated a risk reduction of BC presentation [15] and might be associated with the CHM actions. Nevertheless, we should point out that our findings represent a singular case, and such a treatment model cannot be recommended as a standard treatment for BC before more study outcomes are available.

## Conclusion

We report an early-stage BC case with ER and PR positive has achieved long-term complete remission and excellent quality of life after lumpectomy and maintenance CHMs. Although CHM is not a standard therapy for BC, this case study provides a potential alternative option of maintenance approach for BC patients who may not be suitable for current adjuvant treatments. Further studies with randomised controlled trials are warranted to elucidate whether Chinese medicine has an alternative or complementary role in adjuvant BC therapies.

## Acknowledgement

The authors would like to acknowledge the Maxwell Family Foundation and Western Sydney University for supporting this

work, and Dr. Zhijin Li for reviewing the imaging scans.

## Ethics Considerations

This case report was approved for an exemption from the human research ethics review approved by the Human Research Ethics Committee of Western Sydney University Australia (EX2021-01). Written consent was obtained from the patient for publication of this case report. A copy of the written consent is available for review.

**Conflict of interest:** none

## References

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, et al., (2021) Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin*, 71:209-249.
2. Suryadevara A, Paruchuri LP, Banisaeed N, Dunnington G, Rao KA (2010) The clinical behaviour of mixed ductal/lobular carcinoma of the breast: a clinicopathologic analysis. *World J Surg Oncol* 8:51.
3. Burguin A, Diorio C, Durocher F (2021) Breast cancer treatments: updates and new challenges. *J Pers Med* 11:808.
4. Pan H, Gray R, Braybrooke J, Davies C, Taylor C, et al., (2017) 20-year risks of breast cancer recurrence after stopping endocrine therapy at 5 years. *N Engl J Med* 377:1836-1846.
5. Greenlee H, DuPont-Reyes MJ, Balneaves LG, Carlson LE, Cohen MR, et al., (2017) Clinical practice guidelines on the evidence-based use of integrative therapies during and after breast cancer treatment. *CA Cancer J Clin* 67:194-232.
6. Heilat GB, Brennan ME, French J (2019) Update on the management of early-stage breast cancer. *Aust J Gen Pract* 48:604-608.
7. Walsh EM, Smith KL, Stearns V (2020) Management of hormone receptor-positive, HER2-negative early breast cancer. *Semin Oncol* 47:187-200.
8. Paranjpe R, John G, Trivedi M, Abughosh S (2019) Identifying adherence barriers to oral endocrine therapy among breast cancer survivors. *Breast Cancer Res Treat* 174:297-305.
9. Peddie N, Agnew S, Crawford M, Dixon D, MacPherson I, et al., (2021) The impact of medication adverse effects on adherence and persistence to hormone therapy in breast cancer survivors: a qualitative systematic review and thematic synthesis. *Breast* 58:147-159.
10. Wu H, Wang RP, Chen X (2019) Advances in Research on Anti-tumor Mechanism of Xiaochaihu Decoction. *Herald of Traditional Chinese Medicine (Chin)*, 25:70-72,85.
11. Zheng Y, Zhang J, Huang W, Zhong LLD, Wang N, et al., (2021) Sini San Inhibits chronic psychological stress-induced breast cancer stemness by suppressing cortisol-mediated GRP78 activation. *Front Pharmacol* 12:714163.
12. Li C, Wang Q, Shen S, Wei X, Li G (2018) Oridonin inhibits VEGF-A-associated angiogenesis and epithelial-mesenchymal transition of breast cancer *in vitro* and *in vivo*. *Oncol Lett*, 16:2289-2298.

**Citation:** Liang H, Guo J, Li CG (2024) Long-term Complete Remission of a Patient with Invasive Ductal and Lobular Breast Cancer Treated with Chinese Herbal Medicine After Lumpectomy: A 15-Year Follow-up Case Report. *Curr Res Cmpl Alt Med* 8: 224. DOI: 10.29011/2577-2201.100224

---

13. Gao W, Liang H, Li Y, Liu Y, Xu Y (2019) Root extract of *Prunella vulgaris* inhibits in vitro and in vivo carcinogenesis in MCF-5 human breast carcinoma via suppression of angiogenesis, induction of apoptosis, cell cycle arrest and modulation of PI3K/AKT signalling pathway. *J BUON* 24:549-554.
14. Wang X, Ma C, Yang P, Cao G, Guo G, et al., (2020) Research progress of anti-inflammatory and anti-tumour effects of *Hedyotis Diffusa Willd.* *Chin J Mod Appl Pharm (Chin)* 37:2420-27.
15. Vairavan R, Abdullah O, Retnasamy PB, Sauli Z, Shahimin MM, et al., (2019) A brief review on breast carcinoma and deliberation on current non-invasive imaging techniques for detection. *Curr Med Imaging Rev* 15:85-121.