

Sentinel lymph node biopsy in breast cancer

New indications and our experience



Ann. Ital. Chir., 2015 86: 508-512
pii: S0003469X15023982

Guido Zanghì, Nunzia Maria Angela Rinzirillo, Angela Maria Caponnetto, Rosario Vecchio,
Vito Catania, Vito Leanza

Policlinic "Vittorio Emanuele", University Hospital. Surgery Department, Catania University, Catania, Italy

Sentinel lymph node biopsy in breast cancer. New indications and our experience

INTRODUCTION: *Owing to complexity and difficulty regarding evaluation of all the regional lymph nodes, the Sentinel Lymph Node Biopsy (SLNB) has represented in recent years a suitable technique for setting lymph node status; it allows pathologists to focus on a small number of lymph nodes and stage patients with clinically negative lymph nodes; this sort of assessment leads surgeons to a correct approach; on the contrary, the presence of metastases makes advisable to perform Axillary Lymph Node Dissection (ALND).*

MATERIALS AND METHODS: *From September 2008 to December 2013, 142 patients suffering from breast cancer were enrolled. Mean age was 54 years (range 37-80), in 88 (62%) patients the lesion was localized to the right breast, while in the remaining 54 (38%) the disease was localized in the left breast. Also in 85 (60%) patients, the tumor involved the upper-outer quadrant, in 24 (17%) the lower external quadrant, in 19 (13%) the upper-inner quadrant and in the remaining 14 (10%) the inferior-internal quadrant.*

RESULTS: *There were neither intra nor post-operative complications. The all removed breast lesions were histologically malignant: 99 (70%) patients had a histological diagnosis of invasive ductal, 30 (21%) of invasive lobular, 9 (6%) ductal in situ and 4 (3%) of mixed invasive cancer. Sentinel Lymph Node (SLN) was always identified and it was extemporaneously positive in 62 cases (44%); 40 cases had macro-metastatic involvement whereas the remaining 22 cases had micro-metastases only. The definitive histological examination confirmed the presence of micro-metastases in 18 cases, while in 2 cases there was a supra-staging to macro-metastases and in other 2 a sub-staging of Isolated Tumor Cells (ITC). None of the patients with micro-metastatic SLN involvement developed recurrence within 24 months, whereas only one patient died after one year owing to at distance dissemination.*

CONCLUSION: *Lymph node status has increasingly been getting one of the most important prognostic factor. Consequently the bigger the tumor nodal involvement appears the worse the prognosis becomes. Our data confirm the main role of SLNB on managing surgical treatment of breast cancer.*

KEY WORDS: Biopsy, Breast cancer, Sentinel lymph node

Introduction

Even today, breast cancer is the most frequent malignancy in women, being first as regards incidence and second as a cause of death due to malignant disease.

Moreover, despite the progress aimed at preventing this disease, it still remains stable ¹.

In the last decades the management of patients with this disease has thoroughly changed; radical surgery has given way to a less invasive surgery supported by adjuvant treatment; it combines both effectiveness of therapy and improvement of Quality of Life (QL) ^{2,3}.

Considering the strong trend of the lymphatic spread, the loco-regional lymph node involvement has always been considered the best prognostic indicator; consequently, loco-regional lymph tissue treatment plays a main role in the treatment of this disease ^{4,5}.

Because of complexity and difficulty regarding evaluation

Pervenuto in Redazione Marzo 2015. Accettato per la pubblicazione Maggio 2015.

Correspondence to: Guido Zanghì (e-mail: ti.tcinu@ihgnazg)

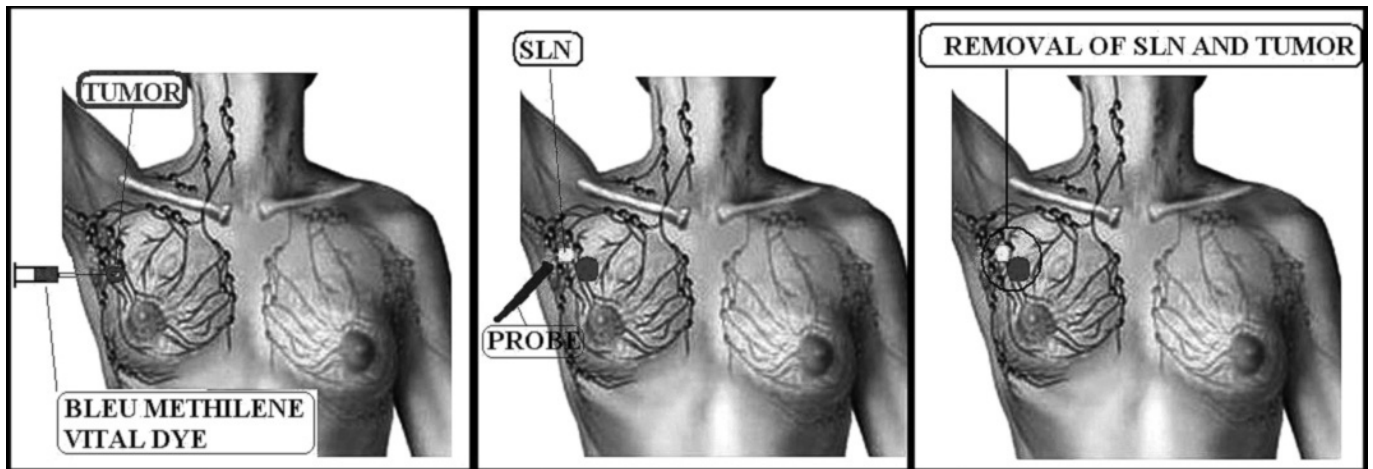


Fig. 1: Sentinel Lymph Node Biopsy (Slnb) Of The Breast.

of all the regional lymph nodes, the Sentinel Lymph Node Biopsy (SLNB) (Fig. 1) has represented in recent years a suitable technique for setting lymph node status; it allows pathologists to focus on a small number of lymph nodes and stage patients with clinically negative lymph nodes; this sort of assessment leads surgeons to a correct approach.

Usually, negativity of SLNB leads the surgeon to decide of avoiding further surgery of Axillary Lymph Node Dissection (ALND) with large safety margins ^{6,7}, on the contrary the presence of metastases compels to perform an ALND.

However in most cases, patients with positive Sentinel Lymph Node (SLN) have no further involvement of Axillary Lymph Nodes (ALS) ^{8,9} and it is well established recurrence is very unusual even though these patients with positive SLN do not undergo ALND, provided they comply current protocols and suitable adjuvant therapies ¹⁰⁻¹³.

For the foregoing reasons, even before the publication of the ACOSOG Z-0011 issue, the trend to avoid ALND in a subgroup of patients ¹⁴⁻¹⁶ has been starting. Even recent guidelines explicitly state that a limited involvement of SLN does not necessarily imply carrying out ALND in all patients and, in case of micro-metastasis, ALND is not necessary ^{17,18}.

However, the results of a large study of 2012 Tvedskow¹⁹ that warns about the significant risk of metastatic involvement of non-sentinel nodes (NSLN) in a proportion of patients with micro-metastatic SLN are in an evident contrast; the estimated risk by means of normograms properly designed ranges between 30 and 50% ²⁰⁻²² and therefore the omission of ALND may not appear the most appropriate choice.

This is why the prognostic and therapeutic implications in patients with micro-metastatic SLN remain the central point of debate in managing this disease.

Aim of this study is to report our experience on treating patients with micro-metastasis of SLN.

Materials and Methods

From September 2008 to December 2013, 142 patients suffering from breast cancer were enrolled at the Clinical Surgery Operative Unit of Catania Policlinic - Vittorio Emanuele University Hospital.

Mean age was 54 years (range 37-80), in 88 (62%) patients the lesion was localized to the right breast, while in the remaining 54 (38%) the disease was localized in the left breast. Also in 85 (60%) patients, the tumor involved the upper-outer quadrant, in 24 (17%) the lower external quadrant, in 19 (13%) the upper-inner quadrant and in the remaining 14 (10%) the inferior-internal quadrant.

At the admission, all patients underwent a specific diagnostic protocol initially consisting of mammography and ultrasound examination of both breast and axillary cavum; when clinical-instrumental investigations gave evidence of secondary localizations, chest Computed Tomography (CT), hepatic ultrasounds possibly complemented by Magnetic Resonance Imaging (MRI) and bone scintigraphy were carried out.

For localization of the SLN, a specific technique known as double contrast was used: we proceeded to perform, in a preoperative phase, a lymph-albumin colloid scintigraphy with m-technetium (Tc)-99 radio-labeled Albumin; later, during surgery, a Blue Methylene vital dye was injected in the peri-lesional site; such a procedure allowed a radio-guided identification and, furthermore, a visual confirmation of a correct surgical treatment.

After identifying and removing, the piece was sent to the anatomic-pathological team, who was properly prearranged in the operative theater ²³; when SLN extemporaneous result was negative, the removed material was suitably prepared for final histological investigation.

After a complete explanation of the operation, all patients signed an opportune informed consent. Regarding the surgical treatment, until 2012, patients with SLN posi-

tivity in either extemporaneous or final histological examination were treated by means of ALND; since 2013 this procedure has been avoided, with great prudence, for patients with SLN micro-metastatic involvement. All patients, finally, underwent adjuvant therapy in accordance with international guidelines.

Patients were included in a clinical and instrumental follow-up program consisting of a clinical examination every 3-6 months for the first three years following treatment and then every 6-12 months for the next two years; finally follow-up was carried out annually. Besides, a mammogram supplemented by an ultrasound examination of the breast and armpit after the first 6 months following primary treatment was done and, then, annually.

Results

In our experience, there were neither intra nor post-operative complications so we proceeded to discharge patients on the fourth and fifth day.

The all removed breast lesions were histologically malignant; precisely: 99 (70%) patients had a histological diagnosis of invasive ductal, 30 (21%) of invasive lobular, 9 (6%) ductal in situ and 4 (3%) of mixed invasive cancer.

The SLN was always identified and it was extemporaneously positive in 62 cases (44%): 40 cases had macro-metastatic involvement whereas the remaining 22 cases had micro-metastases only.

The definitive histological examination confirmed the presence of micro-metastases in 18 cases, while in 2 cases there was a supra-staging to macro-metastases and in other 2 a sub-staging of Isolated tumor cell (ITC). Finally, in those 5 cases in which the extemporaneous examination of the SLN was oncologically negative identifying reactive hyperplasia, the definitive result detected micro-metastases.

The definitive examination showed metastases of NSLN in 31 patients out of 40 who had, after extemporaneous examination, macro-metastasis in the SLN.

None of the patients with micro-metastatic SLN involvement developed recurrence within 24 months, whereas only one patient died after one year due to dissemination at distance.

Discussion

Even today, the neoplastic breast is a real social problem. In recent decades there has been a radical change in both theoretical and practical approach to this disease.

Conceptually the idea, according which breast cancer was retained a local disease, was completely abandoned: now, in agreement with what has been known as the "theo-

ry of Fisher" it is considered a systemic disease with micro-metastases already present at the time of diagnosis²⁴.

In addition, thanks to the progress of diagnostic techniques and spreader screening campaigns aimed at treating early lesions, even surgical treatment has moved from an almost exclusively radical mastectomy approach according to Halsted to an increasingly conservative therapy; provided that surgical treatment is followed by a suitable adjuvant radio-chemotherapy.

Simultaneously, the central role of lymph node status has increasingly been getting one of the most important qualitative and quantitative prognostic factor. Consequently the bigger the tumor nodal involvement appears the worse the prognosis becomes. The risk of finding NSLN metastases is influenced by several factors, among which the size and the degree of SLN involvement appear the most important being actually topic of discussion.

SLN micro-metastatic involvement is associated with metastases of NSLN in 10-15% of cases²⁵, such a percentage is however confirmed by recent clinic studies¹⁰⁻¹², but it tends to increase in a number of patients, if other additive risk factors are considered¹⁹⁻²²⁻⁴⁸.

In this debate, also the prognostic role of ITC must be considered; till recently ITC was not easily distinguished by pathologists from micrometastases^{26,27}. According to a meta-analysis, it is estimated, in fact, that the risk of metastatic involvement of NSLN in patients with SLN positive for ITC is about 12%²⁸.

Nevertheless, although the trend suggested by the new guidelines, leads to avoid ALND in patients with detection of micro-metastases or ITC; in SLN^{17,18}, this sort of approach is likely to be lacking because it cuts out previously an amount of patients that could benefit in terms of survival of a further axillary cavum treatment²⁶⁻²⁹.

Indeed, nowadays, follow-up issues of these patients with minimal involvement of SLN not undergoing ALND have a great importance; they unanimously tend to confirm the trend according which in the case of micro-metastatic involvement ALND represents an overtreatment^{30,31}; in these cases the chemo-radiotherapeutic treatment of the axilla is equivalent to surgery³².

Conclusion

The omission of ALND in patients with either micro-metastatic involvement or ICT of SLN has been spreading in the international scientific community; however, it is recognized that there is a significant risk even in a minority proportion of patients; for such a reason, at the same time, the search is aiming to detect those factors which are useful in predicting the presence of disease in NSLN and identifying at risk population.

In this direction an interesting study regarding the expression of p5333 and the probability of finding recur-

rences in the lymph nodes of the armpit has to be intended as well.

While waiting for progress in this field, providing new studies are able to validate the various recently proposed normograms, even at our unit, with great caution, when the primary lesion is small without associated risk factors and SLN has only a micro-metastatic involvement, we omit carrying out ALND in accordance with latest guidelines.

However, we sustain that a more rigorous follow-up and a greater clinical attention should be offered to these patients.

Finally, breast cancer involves several features: diagnosis, surgery, chemo-radiotherapy and QL. With regard to the diagnosis, early identification of the disease may allow the patient healing even with simple treatments. Concerning surgery, the current trend is to perform an operation as limited as possible depending on the stage of the disease, avoiding over or under treatment³³⁻³⁵.

As for as radio-chemotherapy, it must be done in selected cases after final histological results.

Regarding QL, it must be carefully evaluated as all surgical gynecological pathologies³⁶⁻⁴⁰.

The fertile women with breast cancer wishing pregnancies and undergoing radio-chemotherapy, should postpone conception⁴¹⁻⁴⁴.

Although it is true that the young subjects are less affected by breast cancer, we should not underestimate that in these cases early diagnosis can escape and it makes treatment more challenging. A proper management and an opportune follow-up can enable a better QL, nevertheless, in severe cases, risk of death remains and a psychological support may be helpful to reduce cognitive impairment and decline associated with breast cancer⁴⁵⁻⁴⁷.

References

1. Jemal A, Siegel R, et al.: *Cancer Statistics 2012*. CA Cancer J Clin, 2014; 64:9-29.
2. Scomersi S, Da Pozzo F, Torelli L, Zanconati F, Tonutti M, Dore F, Bortul M: *Clinicopathologic factors predicting involvement of nonsentinel axillary lymph nodes in breast cancer patients: Is axillary dissection always indicated?* Ann Ital Chir, 2010; 81(5):335-41.
3. Zanghì G, Benfatto G, Catalano F, et al.: *La day-surgery del carcinoma della mammella senile*. G. Chir, 2006; 27(1/2):49-52.
4. Carter CL, Allen C, Henson DE: *Relation of tumor size, lymph node status, and survival in 24, 740 breast cancer cases*. Cancer, 1989; 63:181-87.
5. Zanghì G, Di Stefano G, Caponnetto A, Vecchio R, Lanaia A, La Terra A, Leanza V, Basile F: *Breast cancer and sentinel lymph node micrometastases: indication for lymphadenectomy and literature review*. G. Chir, 2014; 35 (11/12): 260-65.
6. Veronesi U, Viale G, Paganelli G, et al: *Sentinel lymph node biopsy in breast cancer: Ten-year results of a randomized controlled study*. Ann Surg, 2010; 251:595-600.
7. Krag DN, Anderson SJ, et al.: *Sentinel-lymph-node resection compared with conventional axillary-lymph-node dissection in clinically node-negative patients with breast cancer: overall survival findings from the NSABP B-32 randomised phase 3 trial*. Lancet Oncol, 2010; 11:927-33.
8. Cserni G, Burzykowski T, Vinh-Hung V, et al.: *Axillary sentinel node and tumour-related factors associated with non-sentinel node involvement in breast cancer*. Jpn J Clin Oncol, 2004; 34:519-24.
9. Viale G, Maiorano E, Prunerì G, et al: *Predicting the risk for additional axillary metastases in patients with breast carcinoma and positive sentinel lymph node biopsy*. Ann Surg, 2005; 241:319-25.
10. Giuliano AE, McCall L, Beitsch P, et al.: *Locoregional recurrence after sentinel lymph node dissection with or without axillary dissection in patients with sentinel lymph node metastases: The American College of Surgeons Oncology Group Z0011 randomized trial*. Ann Surg, 2010; 252:426-32 9.
11. Solà M, Alberro JA, Fraile M, Santesteban P, Ramos M, Fabregas R, et al.: *Complete axillary lymph node dissection versus clinical follow-up in breast cancer patients with sentinel node micrometastasis: final results from the multicenter clinical trial AATRM 048/13/2000*. Ann Surg Oncol, 2013; 20:120-27.
12. Galimberti V, Cole BF, Zurrada S, Viale G, Luini A, Veronesi P, et al.: *Axillary dissection versus no axillary dissection in patients with sentinel-node micrometastases (IBCSG 23-01): A phase 3 randomised controlled trial*. Lancet Oncol, 2013; 14:297-305.
13. Zanghì G, Di Stefano G, Furci M, Biondi A, Catalano F, Benfatto G, Basile F: *Studio del linfonodo sentinella nel carcinoma della mammella: Nostra esperienza*. Ann Ital Chir, 2004; 75(3) 325-30.
14. Park J, Fey JV, Naik AM, Borgen PI, Van Zee KJ, Cody HS 3rd: *A declining rate of completion axillary dissection in sentinel lymph node-positive breast cancer patients is associated with the use of a multivariate nomogram*. Ann Surg, 2007; 245:462-68.
15. Bilimoria KY, Bentrem DJ, Hansen NM, Bethke KP, Rademaker AW, Ko CY, et al.: *Comparison of sentinel lymph node biopsy alone and completion axillary lymph node dissection for node-positive breast cancer*. J Clin Oncol, 2009; 27:2946-953 193.
16. Wasif N, Maggard MA, Ko CY, Giuliano AE: *Underuse of axillary dissection for the management of sentinel node micrometastases in breast cancer*. Arch Surg, 2010; 145:161-66.
17. Goldhirsch A, Wood WC, Coates AS, Gelber RD, Thurlimann B, Senn HJ, et al.: *Strategies for subtypes-dealing with the diversity of breast cancer: Highlights of the St. Gallen International expert consensus on the primary therapy of early breast cancer 2011*. Ann Oncol, 2011; 22:1736-747.
18. AGO, DGS, SGS, ÖGS, Panelists, Executive BoardMembers: *German, Austrian and Swiss consensus conference on the diagnosis and local treatment of the axilla in breast cancer*. Eur J Cancer, 2013; 49: 2277-283.
19. Tvedskov TF, Jensen MB, Lisse IM, Ejlersen B, Balslev E, Kroman N: *High risk of non-sentinel node metastases in a group of breast cancer patients with micrometastases in the sentinel node*. Int J Cancer, 2012; 131:2367-375.
20. Iannace C, Di Libero L, Lepore M, De Stefano N, Buono M, Sciascia V, Manetta F, Giordano M, Scetta G, Varriale R, Esposito D, Tartaglia E, Ferbo U, Miletto P, Caracciolo F: *Prognostic and curative value of sentinel node in breast cancer. A 377 patients expe-*

- rience. *Ann Ital Chir*, 2010; 81(2):103-11; discussion 112-13. Review. Italian.
21. Houvenaeghel G, Nos C, Giard S, Mignotte H, Esterni B, Jacquemier J et al.: *A nomogram predictive of non-sentinel lymph node involvement in breast cancer patients with a sentinel lymph node micrometastasis*. *Eur J Surg Oncol*, 2009; 35:690-95.
 22. Houvenaeghel G, Bannier M, Nos C, Giard S, Mignotte H, Jacquemier J, et al.: *Non sentinel node involvement prediction for sentinel node micrometastases in breast cancer: nomogram validation and comparison with other models*. *Breast*, 2012; 21:204-09.
 23. Cserni G: *The potential value of intraoperative imprint cytology of axillary sentinel lymph nodes in breast cancer patients*. *Am Surg*, 2001; 67:86-91.
 24. Fisher B, Wolmark N, Bauer M, Redmond C, Gebhardt M: *The accuracy of clinical node staging and limited axillary dissection as a determinant of histology nodal status in carcinoma of the breast*. *Surg Gynecol Obstet*, 1981; 152:765-72.
 25. Cserni G, Gregori D, Merletti F, Sapino A, Mano MP, Ponti A et al.: *Meta-analysis of non-sentinel nodemetastases associated with micrometastatic sentinel nodes in breast cancer*. *Br J Surg*, 2004; 91:1245-252.
 26. De Mascarel I, MacGrogan G, Debled M, Brouste V, Mauriac L: *Distinction between isolated tumor cells and micrometastases in breast cancer: Is it reliable and useful?* *Cancer*, 2008; 112:1672-678 *Sentinel node-positive patients without axillary dissection*.
 27. Cserni G, Bianchi S, Vezzosi V, van Diest P, van Deurzen C, Sejbien I, et al.: *Variations in sentinel node isolated tumour cells /micrometastasis and non-sentinel node involvement rates according to different interpretations of the TNM definitions*. *Eur J Cancer*, 2008; 44: 2185-191.
 28. Van Deurzen CH, de Boer M, Monninkhof EM, Bult P, van der Wall E, Tjan-Heijnen VC et al.: *Non-sentinel lymph nodemetastases associated with isolated breast cancer cells in the sentinel node*. *J Natl Cancer Inst*, 2008; 100:1574-580.
 29. Cserni G, Bezsenyi I, Marko L: *Patients choice on axillary lymph node dissection following sentinel lymph node micrometastasis—first report on prospective use of a nomogram in very low risk patients*. *Pathol Oncol Res*, 2013; 19:211-16.
 30. Gábor C, Maráz R: *Regional disease control in selected patients with sentinel lymph node involvement and omission of axillary lymph node dissection*. *Patol Oncol Res*, 2015; Epub ahead of Print.
 31. Donker M, van Tienhoven G, Straver ME, Meijnen P, van de Velde CJ, et al.: *Radiotherapy or surgery of the axilla after a positive sentinel node in breast cancer (EORTC 10981-22023 AMAROS): A randomised, multicentre, open-label, phase 3 non-inferiority trial*. *Lancet Oncol*, 2014; 15(12):1303-310.
 32. Michael Co, Ava Kwong: *Macrometastasis, Micrometastasis, and Isolated Tumor Cells in Sentinel Lymph Nodes of Early Breast Cancers: A 10-Year Histopathological and Survival Analysis of 537 Asian Patients*. *World J Surg*, 2015; Epub ahead of Print.
 33. Sianesi M, Del Rio P, Martella E, De Notarpietro F, De Simone B, Ghirarduzzi A: *Can we define a role for perisentinel lymph-nodes on breast cancer disease?* Sianesi N, Arcuri MF, *Ann Ital Chir*, 2011; 82(3):173-77.
 34. Pasta V, Urciuoli P, D'Orazi V, Sottile D, Monti M, Redler A: *Contralateral axillary metastases from breast cancer. Personal experience and review of literature*. *Ann Ital Chir*, 2014; 85(3):260-64.
 35. Scomersi S, Torelli L, Zancanati F, Tonutti M, Dore F, Bortul M: *Evaluation of a breast cancer nomogram for predicting the likelihood of additional nodal metastases in patients with a positive sentinel node biopsy*. *Ann Ital Chir*, 2012; 83(6):461-68.
 36. Vernet-Tomas M, Baños N, Sabadell D, et al.: *p53 expression in breast cancer predicts tumors with low probability of non-sentinel nodes infiltration*. *J Obstet Gynecol Re*, 2015 Feb; Epub ahead of Print.
 37. Passanisi A, Leanza V, Leanza G: *The impact of sexually transmitted diseases on quality of life: application of three validated measures*. *GiornItOst Gin*, 2013; 35 (6): 722-27. DOI: 10.11138/giog/2013.35.6.722.
 38. Leanza V, Intagliata E, Leanza A, Ferla F, Leanza G, Vecchio R: *Comparison between three mini-slugsurgical procedures and the traditional transobturator vaginal tape technique for female urinary incontinence*. *G Chir*, 2014; 35 (3-4): 80-84.
 39. Leanza V, Intagliata E, Ferla F, Leanza A, Leanza G, Cannizzaro RA, Vecchio R: *Mini-invasive tension free surgery for female urinary incontinence*. *G Chir*, 2014; 35 (1-2) 36-41.
 40. Leanza V, Passanisi A, Leanza G: *Urinary incontinence: quality of life and psychological aspects*. *UIJ*, 2013; 27:e3 DOI: 10.4081/uij.2013.e34
 41. Leanza V, Garaffo C, Leanza G, Leanza A: *Retroperitoneal sarcoma involving unilateral double ureter: Management, treatment and psychological implications*. *Case Rep Oncol*, 2014; 7 (2):301-05. (DOI:10.1159/000363052).
 42. Leanza V, Coco L, Grasso F, Leanza G, Zarbo G, Palumbo M: *Ovulation Induction with clomiphene citrate for infertile couple*. *Minerva Ginecol*, 2014; 66(3): 309-12.
 43. Leanza V, Coco L, Grasso F, Leanza G, Zarbo G, Palumbo M: *Ovulation Induction with clomiphene citrate and metformin in women with polycystic ovary syndrome*. *Minerva Ginecol*, 2014; 66(3): 299-301.
 44. Formoso C, Stracquadanio M, Teodoro MC, Leanza V, D'Alessandro, Ciotta L: *Adolescents and PCOS: Last update on diagnosis and therapy*. *Giorn It Ost Gin*, 2014; 36 (1): 131-36.
 45. Leanza V, Coco L, Grasso F, Leanza G, Zarbo G, Palumbo M: *Unexplained infertility and ovulatory induction with menopausal gonadotropins*. *Minerva Ginecol*, 2014; 66(3): 303-07.
 46. Ono M, Ogilvie JM, Wilson JS, Green HJ, Chambers SK, Ownsworth T, Shum DH: *A meta-analysis of cognitive impairment and decline associated with adjuvant chemotherapy in women with breast cancer*. 2015; 5:59. doi: 10.3389/1fonc.2015.00059. eCollection 2015.
 47. Petronella P, Scorzelli M, Benevento R, Corbisiero MC, Freda F, Canonico S: *The sentinel lymph node: a suitable technique in breast cancer treatment?* *Ann Ital Chir*, 2012; 83(2):119-23.
 48. Zanghì G, Di Stefano G, Furci M, Biondi A, Catalano F, Benfatto G, Basile F: *L'analisi del linfonodo sentinella nel carcinoma della mammella: Nostra esperienza*. *Ann Ital Chir*, 2004; 75:1.