surgical training and 1/3 being trained in a Breast Unit. It is imperative to develop quality standards for breast cancer surgery training to ensure that patients get standardized and certified surgical management regardless of the country they are treated.
Conflict of interest: No conflict of interest.

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ELECTROCHEMOTHERAPY IN MELANOMA: A EUROPEAN E-DELPHI SURVEY TO DEFINE A CONSENSUS ON INDICATIONS, TREATMENT MODALITIES AND QUALITY INDICATORS

L.G. Campana[1], P. Quaglino[2], F.G. Bechara[3], R. Marconato[4], P.A. Ascierto[5], C. Caracò[6], M. Brizio[7], J. Clover[8], M. Bourke[9], S. Valpione[10], G. Sersa[11], C. Kunte[12], M. Mühlstädt[13], G. Gerlini[14], J. Hafner[15], R. Patuzzo[16], S. Farronato[17], A. Orlando[18], K. Eisendle[19], E. Kis[20]. On behalf of InspECT (International Network for Sharing Practices of Electrochemotherapy) and members the Expert Panel[1] *Veneto Institute of Oncology IOV-IRCCS, Surgical Oncology Unit, Padova, Italy;* [2] *University of Turin, Department of Medical Sciences- Dermatologic Clinic, Turin, Italy;* [3] *Ruhr-University, Department of Dermatology- Skin Cancer Center, Bochum, Germany;* [4] *University of Padua, Department of Surgery Oncology and Gastroenterology - School of Surgery, Padua, Italy;* [5] *Istituto Nazionale Tumori Fondazione G. Pascale, Medical Oncology Unit, Naples, Italy;* [6] *Istituto Nazionale Tumori Fondazione G. Pascale, Surgical Oncology Unit, Naples, Italy;* [7] *University of Turin, Department of Medical Sciences - Dermatologic Clinic, Turin, Italy;* [8] *Cork Cancer Research Centre- Cork University, Department of Plastic- Reconstructive and Aesthetic Surgery, Cork, Ireland;* [9] *Cork Cancer Research Centre, Cork, Ireland;* [10] *The Christie NHS Foundation Trust, Medical Oncology, Manchester, United Kingdom;* [11] *Institute of Oncology Ljubljana - Ljubljana - Slovenia, Department of Experimental Oncology, Ljubljana, Slovenia;* [12] *Ludwig-Maximillian University, Department of Dermatology and Allergology, Munich, Germany;* [13] *Geneva University Hospitals, Division of Dermatology and Venereology, Geneva, Switzerland;* [14] *Tuscan Tumour Institute ITT - Santa Maria Annunziata Hospital, Plastic and Reconstructive Surgery Unit, Florence, Italy;* [15] *Zürich University, Department of Dermatology, Zürich, Switzerland;* [16] *Fondazione IRCCS Istituto Nazionale dei Tumori, Melanoma and Sarcoma Unit, Milan, Italy;* [17] *University of Padova, School of Medicine, Padova, Italy;* [18] *Southmead Hospital- North Bristol NHS Trust, Department of Plastic and Reconstructive Surgery, Bristol, United Kingdom;* [19] *Medical University Innsbruck- Central Teaching Hospital Bolzano, Department of Dermatology-Venerology, Bolzano, Italy;* [20] *University of SzegedSzeged- Hungary, Department of Dermatology and Allergology, Szeged, Hungary*

Background: Electrochemotherapy (ECT) has evolved considerably over the past decade, but its application is yet to be standardized. In fact, a lack of agreement exists on eligible patients, timing of treatment, combination strategies and outcomes. Therefore, our aim was to establish a consensus on treatment indications (TI), procedural modalities (PM), and quality indicators (QI) of ECT in melanoma.
Material and methods: We invited 156 experts from 53 European centers who fulfilled pre-specified eligibility criteria to undertake a 3-Round web-based survey, according to a modified Delphi method. The inclusion criteria were: (a) at least 20% of practice in melanoma; (b) a minimum of 5 years of post-qualification experience; (c) participation to a melanoma multidisciplinary team (MDT) meeting; (d) ability to communicate in written English; (e) working at a center where ECT is currently performed. Each center was encouraged to participate with experts from different specialties. Out of 156 invited experts, 122 (78.2%) agreed to participate and received in-depth instructions. The questionnaires were administered through an online platform powered by Scientific Network (www.scientificnetwork.org) and the participants had at least eight weeks to complete each phase of the survey (April – May 2017; August – September 2017; November 2017 – January 2018). For each item, participants were asked to rate its relevance and to express their agreement on a five-point Likert scale (from 1= completely disagree to 5=completely agree). Consensus was defined as $\geq$ 70% of subjects rating 3 or 4, and items were retained in case of stability in two successive iterations. Subject anonymity was maintained throughout the study and a controlled feedback was provided to allow participants to reassess their initial judgments.
Results: One-hundred subjects completed the first phase and thus represented the Expert Panel (Italy, n=61; UK, n=10; Germany, n=6, Ireland, n=5; Portugal, n=4, Slovenia, n=4; Poland, n=4; Switzerland, n=3; Hungary, n=3; Denmark, n=1; Spain, n=1). The composition of the Expert Panel was as follows: surgeons, n=49; dermatologists, n=29; medical oncologists, n=15; radiotherapists, n=3; nurses, n=2; clinical scientists, n=2. The completion rate of the first, second and third Round of the survey was 82% (100/122), 97% (97/100), and 93% (90/97), respectively. In the final Round, we reached a consensus on 43 items on TI and on 16 QI. For each QI, a benchmark value was individuated through a real-time Delphi method.
Conclusion: Experts suggested a set of shared, melanoma-specific TI of ECT. Moreover, they agreed on a core set of QI, which could represent critical considerations for its safe adoption and promote the standardization of the procedure. The items lacking consensus may represent useful topics for future research.
Conflict of interest: No conflict of interest.

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INTERNATIONAL COMPARISON OF TREATMENT STRATEGY AND SURVIVAL IN METASTATIC GASTRIC CANCER: A SURVEY FROM THE EURECCA UPPER GI GROUP

Y. Claassen[1], E. Bastiaannet[1], H. Hartgrink[1], J. Dikken[1], W. De Steur[1], M. Slingerland[2], R. Verhoeven[3], E. Van Eycken[4], H. De Schutter[4], M. Lindblad[5], J. Hedberg[6], E. Johnson[7], G.O. Hjortland[8], L. Jensen[9], H. Larsson[10], T. Koessler[11], M. Chevallay[12], W. Allum[13], C. Van de Velde[1]. [1] *Leiden University Medical Center, Surgery Department, Leiden, Netherlands;* [2] *Leiden University Medical Center, Medical Oncology Department, Leiden, Netherlands;* [3] *Netherlands Comprehensive Cancer Organisation IKNL, Department of Research, Leiden, Netherlands;* [4] *Belgian Cancer Registry, Belgian Cancer Registry, Brussels, Belgium;* [5] *Karolinska University Hospital, Department of Surgical Gastroenterology, Stockholm, Sweden;* [6] *Uppsala University, Department of Surgical Science, Uppsala, Sweden;* [7] *Oslo University Hospital- University of Oslo, Department of Gastroenterological and Pediatric Surgery- Institute of Clinical Medicine, Oslo, Norway;* [8] *Oslo University Hospital, Department of Oncology, Oslo, Norway;* [9] *Aarhus University Hospital, Department of Surgery, Aarhus, Denmark;* [10] *a National Quality Improvement Programme RKKP, The Danish National Registries, Aarhus, Denmark;* [11] *Geneva University Hospital, Department of Medical Oncology, Geneva, Switzerland;* [12] *Geneva University Hospital, Department of Surgery, Geneva, Switzerland;* [13] *Royal Marsden NHS Foundation Trust, Department of Surgery, London, United Kingdom*

Background: No survival benefit was shown in the randomized Asian REGATTA trial for additional gastrectomy over chemotherapy alone in patients with advanced gastric cancer with a single non-curable factor; thereby discouraging palliative gastrectomy surgery for this group of patients. The German prospective phase II AIO-FLOT3 trial indicated a favourable survival for patients with limited metastatic disease having surgery after neoadjuvant chemotherapy, and this is further being evaluated in the ongoing randomized RENAISSANCE trial. The aim of this study was to describe treatment strategy patterns for patients with metastatic gastric cancer in daily practice in five countries in Europe. Also, relative survival according to country was determined.
Material and methods: National population-based data from Belgium, Denmark, the Netherlands, Norway, and Sweden were collected and merged. All patients diagnosed with primary metastatic gastric cancer between 2006 and 2014 were included. Resection rates and the administration of chemotherapy (irrespective of surgery) in each country were analysed. Relative survival in each country was calculated.
Results: In total, 15 057 gastric cancer patients were included. The resection rate differed from 8.1% in the Netherlands and Denmark to 18.3% in Belgium. Chemotherapy was administered in 39.2% of the patients in the Netherlands compared to 63.2% in Belgium. Six-month relative survival was 54.1 (95% CI 95%: 52.1 – 56.9) in Belgium and 49.6 (95% CI 95%: 47.3-51.9) in Denmark compared to 42.6 (95% CI 95%: 39.8-45.4) in Norway, 39.6 (95% CI 95%: 37.6-41.5) in Sweden, and 39.0 (95% CI:37.8 – 40.2) in the Netherlands.
Conclusions: In Europe, wide variation is observed in the use of a gastrectomy for patients with metastatic gastric cancer and in

chemotherapy use for the two countries with data on chemotherapy. Studying treatment details on population level in the current study was hampered by lack of data availability. A well conducted prospective study for metastatic gastric patients with special focus on quality of life is needed in the future.

Conflict of interest: No conflict of interest.

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ELECTROCHEMOTHERAPY IN THE TREATMENT OF CUTANEOUS MALIGNANCY; OUTCOMES AND SUBGROUP ANALYSIS FROM THE CUMULATIVE RESULTS FROM THE PAN- EUROPEAN INSPECT DATABASE FOR 1478 LESIONS IN 691 PATIENTS (2008-2018)

A.J.P. Clover[1], G. Bertino[2], P. Curatolo[3], J. Odili[4], L. Campana[5], C. Kunte[6], T. Muir[7], M. Brizio[8], G. Sersa[9], S.H. Liew[10], G. Moir[11], A. Orlando[12], S.M. Banerjee[13], E. Kis[14], J.A. McCaul[15], E.M. Grischke[16], P. Matteucci[17], K.J. Gehl[18]. On behalf of the International Network for Sharing Practices on Electrochemotherapy (InspECT)[1] *Cork Cancer Research Centre. Western Gateway Building- University College Cork, Department of Plastic Surgery, Cork, Ireland;* [2] *University of Pavia- IRCCS Policlinico San Matteo Foundation- Pavia-Italy., Department of Otolaryngology Head Neck Surgery, Pavia, Italy;* [3] *University of Rome "La Sapienza"- Rome- Italy- Policlinico Umberto I- Rome- Italy, Department of Internal Medicine and Medical Specialties- Division of Dermatology, Rome, Italy;* [4] *St. Georges University Hospitals NHS Trust- London, Department of Plastic Surgery, London, United Kingdom;* [5] *Surgical Oncology Unit- Veneto Institute of Oncology IOV - IRCCS- Padua, Department of Surgery Oncology and Gastroenterology- University of Padova, Padova, Italy;* [6] *Ludwig-Maximilian University Munich- Artemed Fachklinik Munich, Department of Dermatology and Allergology-Department of Dermatologic surgery and Dermatology, Munich, Germany;* [7] *James Cook University Hospital, Consultant plastic surgeon- James Cook University Hospital- Middlesbrough- TS43BW, Middlesbrough, United Kingdom;* [8] *Dermatologic Clinic- Dept medical sciences University of Turin, Dept medical sciences University of Turin, Turin, Italy;* [9] *Institute of Oncology Ljubljana, Department of Experimental Oncology- Zaloska 2, Ljubljana, Slovenia;* [10] *Merseyside plastic surgery centre, Merseyside plastic surgery centre, Liverpool, United Kingdom;* [11] *The Royal London Hospital & QMUL- Bart's Health NHS Trust, Skin Cancer SSMDT- Department of Cutaneous Medicine & Surgery- The Royal London Hospital & QMUL- Bart's Health NHS Trust, London, United Kingdom;* [12] *Southmead Hospital- North Bristol NHS Trust, Department of Plastic and Reconstructive Surgery, Bristol, United Kingdom;* [13] *Royal free campus- University College London, Dept. Surgery and interventional sciences, London, United Kingdom;* [14] *University of Szeged, Department of Dermatology and Allergology, Szeged, Hungary;* [15] *Maxillofacial Unit- Queen Elizabeth University Hospital- Glasgow, Maxillofacial Unit- Queen Elizabeth University Hospital- Glasgow, Glasgow, Scotland, United Kingdom;* [16] *Universitäts-Frauenklinik, Universitäts-Frauenklinik, Tuebingen, Germany;* [17] *Castle Hill Hospital, Consultant Plastic Surgeon- Castle Hill Hospital, Castle Hill, United Kingdom;* [18] *Department of Clinical Medicine- Faculty of Health and Medical Sciences- University of Copenhagen, Department of Clinical Oncology and Palliative Care- Zealand University Hospital, Roskilde, Denmark*

Background: Electrochemotherapy is a treatment for cutaneous tumors, both primary and secondary metastatic tumors. The international Network for sharing practices on Electrochemotherapy (INSPECT) group gathers information on treatment outcome in a common database with defined, outcome parameters in order to improve and guide the use of electrochemotherapy. This allowed cumulative analysis of the database over a 10 year period across the range of cutaneous histiotypes treated.

Methods: Twenty treatment centers across Europe participated. Treatment outcomes for 691 patients treated with electrochemotherapy for primary or secondary cutaneous tumors, with a follow-up of 45 days or more, were analyzed. Up to 7 tumor lesions were registered for each patient. Response rates were investigated in relation to primary diagnosis, tumor size, choice of electrode type and route of bleomycin administration, as well as previous irradiation in the treated lesions.

Results: In 691 patients, 1478 tumor lesions were treated and registered, and included in analysis. Across all histologies the overall response rate (OR) was 83% (complete response (CR) 68%, partial response rate (PR) 16%, stable disease (SD) 12%, and progressive disease 2%). For different histologies OR/CR rates were respectively: metastases of malignant melanoma 84%/67%; basal cell carcinoma 96%/81%, breast cancer metastases 74%/67%, for squamous cell carcinoma 78%/60% and Kaposi's sarcoma 97%/89%. Although response rates were uniformly high, variance was demonstrated across cancer histiotypes ($p<0.0005$) and according to size of lesion treated (greater or less than 3cm, $p<0.0005$). Hexagonal electrodes (hex) were generally used for larger tumors, but for tumors up to 3 cm it was shown that linear array electrodes (lin) provided better tumor control than hex electrodes (lin 82%, hex 73%, $p<0.0035$). Furthermore in tumors over 1 cm intravenous administration was superior to intratumoral administration ($p<0.0003$). In previously irradiated areas, responses were selectively lower for intratumoral administration. Responses were high regardless of current levels, re-iterating that electroporation is dependent on the field amplitude alone.

Conclusions: Electrochemotherapy is a viable option as part of the treatment algorithm for patients with cutaneous malignancy. These cumulative data endorse its efficiency across a broad range of histiotypes. An overall response rate of 83%, with a complete response rate of 67% was observed, with highest responses in basocellular carcinoma and Kaposi's sarcoma. This is the largest study on treatment of cutaneous metastases across tumor histologies, allowing detailed sub group analysis, and solidifying electrochemotherapy in context amongst the treatment options available for primary and secondary cutaneous malignancy.

Conflict of interest other substantive relationships: Data in the Inspect database belong to the member institutions, but the upkeep of the database is sponsored by the IGEA company. IGEA has also sponsored travel for meetings.

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COMPARISON OF CA125, HE4 AND ROMA TO DIFFERENTIATE MALIGNANT FROM BENIGN OVARIAN MASSES

S. Rajan, V. Kumar, S. Gupta, N. Akhtar, A. Chaturvedi. *King George's Medical University, Surgical Oncology, Lucknow, India*

Background: CA 125, HE4 and ROMA are FDA approved test used in ovarian cancer management. Data regarding their role in differentiating malignant and benign ovarian masses suffers from heterogeneity in patient selection, test platform and cutoff values used. Better performed study would be crucial in order to assess the clinical utility of these tests.

Methods: This prospective study includes 188 patients presenting with ovarian masses. Serum CA 125 & HE4 levels were measured before surgery using Chemiluminescent Microparticle Immunoassay technology. ROMA values were calculated by algorithm. Histopathological correlation was done to study the ability of these tests to differentiate benign from malignant ovarian masses. Analyses were performed by the SPSS software (version 20.0). ROC curves, sensitivity, specificity and cutoff values were calculated.

Results: Total 58 benign and 130 malignant ovarian tumors were found. The values of CA 125, HE4 & ROMA were significantly higher in malignant compared to benign masses in both pre and postmenopausal group ($p<0.05$). In premenopausal females Z test showed similar diagnostic between the markers, CA 125 and HE4 (AUC: 0.965 vs. 0.938, $Z=0.72$, $p=0.474$), CA 125 and ROMA (AUC: 0.965 vs. 0.914, $Z=1.19$, $p=0.235$) and also in HE4 and ROMA (AUC: 0.938 vs. 0.914, $Z=1.17$, $p=0.240$). In postmenopausal females, Z test showed significantly higher diagnostic of ROMA compared to CA 125 (AUC: 0.901 vs. 0.975, $Z=2.15$, $p=0.032$) while not differed between CA 125 and HE4 (AUC: 0.901 vs. 0.975, $Z=1.55$, $p=0.122$), and HE4 and ROMA (AUC: 0.975 vs. 0.975, $Z=0.00$, $p=1.000$). In premenopausal females chances of malignancy was higher if CA 125 >77 U/ml or HE4 > 62.1 and ROMA value of >13.3% pmol/L was found. In postmenopausal females with CA 125 >259 U/ml or HE4 >124 pmol/L and ROMA value of >76% had high chances of malignancy in ovarian masses.

Conclusions: Diagnostic accuracy of each test is different according to the menopausal status. Overall accuracy of these three markers in premenopausal female is similar. In postmenopausal females HE4 measurement in addition to CA125 and calculating ROMA value is beneficial. We suggest