

Head and neck cancer management in the Nordic countries: an effort to harmonize treatment

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The five Northern European countries (Denmark, Finland, Iceland, Norway, and Sweden) with a population of 26.6 M people represent a geographically and culturally unified area, which still has no unified treatment protocol for head and neck (H&N) cancer management. The Scandinavian Society for Head and Neck Oncology (SSHNO) is a multidisciplinary society, open for all professionals with a special interest in H&N oncology in the Nordic countries. During the past 27 years since its foundation, one major task and focus area for the society's activities has involved various efforts to harmonize management guidelines in its area of responsibility, i.e., Northern Europe. At annual meetings, the participating countries have traditionally presented their clinical outcome data regarding

specific head and neck cancer sites. The aim of this type of agenda has been to highlight differences in national treatment approaches and to raise discussion on their effect on outcome. More importantly, the annual presentations of national data have led towards establishment of unified guidelines in each country. Unfortunately, the impact of these changes on survival outcome cannot be investigated as there have been major changes in treatment modalities during the past quarter century.

A questionnaire survey was recently administered to investigate the diagnostic and treatment guidelines for head and neck cancer of unknown primary at the 22 Nordic hospitals [1]. This paper highlighted the basic elements of H&N cancer management in the five Nordic countries and clarified the structures that will enable the establishment of common treatment guidelines for this patient population in these countries. An earlier report investigated the current

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practice of the initial radiological work-up of patients with oral squamous cell carcinomas in 21 centres in the Nordic countries [2]. One of the current ongoing projects aims at standardising the treatment recommendation for nasopharyngeal cancer in the 23 centres managing this disease in the five member countries. It is noteworthy that in a recent report by the EUROCARE Working Group these Northern European countries clearly ranked among the best among 26 European countries in terms of age-specific and age-standardised relative survival for all head and neck cancer cases (larynx excluded) diagnosed in 2000–2007 [3].

Denmark has a population of 5.7 M people and there are six oncology centres (four Departments of ORL—H&N Surgery) managing the annual 1263 new patients with H&N cancer (1565 including thyroid cancer). In general, two to eleven H&N surgeons and two to six oncologists manage these patients at each centre depending on the size of their individual referring area. Multidisciplinary tumour board meetings are arranged at each of these university hospitals three to four times per week to allow a fast-track-accelerated clinical pathway, which has been effective since 2007. This fast-track system includes diagnostic and preparatory procedures conducted simultaneously as well as pre-booked treatment slots to reduce waiting time [4]. A permanent monitoring system of the waiting times has also been established. National multidisciplinary guidelines for almost all H&N cancer sites are available at <http://www.dahanca.dk>.

Finland has a population of 5.49 M and management of the annual 800 new H&N cancer patients (thyroid cancer not included) is centralised to the five university hospitals. In addition, some of the larger regional hospitals provide treatment for selected early stage disease. A multidisciplinary working group with representatives from all university hospitals annually updates the existing national guidelines for the management of H&N cancer. This group collaborates with the Finnish Cancer Registry to evaluate the registering and outcome of H&N cancer patients. There are approximately two to six head and neck surgeons and two oncologists at each centre providing the treatment depending on the size of the corresponding referral area. Monitoring treatment delay is an ongoing project and various efforts to create a fast-track system are under development.

Iceland has about 340 000 inhabitants and the treatment of approximately 30 annual new H&N cancer patients (and 30 thyroid cancer patients) is centralised to the Reykjavik University Hospital. The team includes three H&N surgeons and two oncologists, but there is no formal multidisciplinary tumour board meeting. A fast-track system exists and the management mostly follows the Danish DAHANCA guidelines. H&N cancers are registered in a national cancer registry.

Norway has approximately 5.17 M inhabitants and annually around 800 new H&N cancer patients (thyroid cancer not included) are managed at four out of the six university hospitals. Each centre has a multidisciplinary tumour board and three to five oncologists and head and neck surgeons. A fast-track system was introduced in May 2015 to reduce waiting times and to shorten treatment delay, and it includes both diagnostic and preparatory procedures. The system also permits validated monitoring of waiting times. A national protocol for H&N cancer management and a national H&N cancer registry are under development.

Sweden has a population of approximately 9.85 M people. Treatment of the 1400 annual new H&N cancer patients (thyroid cancer not included) is centralised to the seven university hospitals. Three additional hospitals provide radiotherapy for these patients. The number of H&N surgeons typically varies between two to ten and there are two to five head and neck oncologists at each centre again depending on the corresponding patient volume. In addition, part of the diagnostic work-up is performed in regional hospitals. Sweden has a national quality registry for H&N cancer since 2008. All university hospitals have a multidisciplinary tumour board meeting at least once a week. The smaller oncologic centres have telecommunication with the university hospitals regarding cases to be presented at a tumour board meeting. Health care is financed by the regions and not by the state. The Swedish government has provided resources since 2015 to shorten delays in H&N cancer management as a pilot programme—only a few centres currently have existing fast-track systems. Furthermore, the national guidelines were recently published [5].

We conclude that in the Northern European countries nationwide recommendations already exist for head and neck cancer and the potential for even wider harmonisation regarding these protocols exists. The arrangement of the treatment for this disease group is already regulated by governmental authorities and organised by the public health care system for all patients in these countries and more importantly, centralised to certain centres in each country. It is also noteworthy that the treating units typically take care of the follow-up of their patients. It is clear from these case descriptions that the Nordic countries represent a unique geographical area in Europe in terms of possible unified management protocols for H&N cancer. As an umbrella for this purpose, the SSHNO with its activities and member network will provide a suitable platform for these efforts. This view and aim will be exceptional in a European perspective. However, similar activities would be beneficial and a collective aim for other organisations as well, including the member societies of EHNS.

Currently, there are no European unified treatment protocols for H&N cancer and an evidence-based proof of concept is still lacking to show the benefits of common guidelines for the management of this disease group. However, when organising treatment of rare diseases in a multicentre setting, this is warranted. Unified protocols would enable quality assurance studies and research activities including multicentre prospective clinical trials with larger patient series. More importantly, they would form a consensus-type platform for patient referrals. Further, these developmental efforts could identify centres of excellence for certain rare disease, entities, or treatment modalities. In the described five countries some centres already have recognised expertise for such a position.

References

1. Farnebo L, Laurell G, Mäkitie A (2016) A Nordic survey on the management of head and neck CUP. *Acta Otolaryngol* 136(11):1159–1163
2. Norling R, Grau C, Nielsen MB et al (2012) Radiological imaging of the neck for initial decision-making in oral squamous cell carcinomas—a questionnaire survey in the Nordic countries. *Acta Oncol* 51(3):355–361
3. Gatta G, Botta L, Sánchez MJ, Anderson LA, Pierannunzio D, Licitra L; EUROCARE Working Group (2015) Prognoses and improvement for head and neck cancers diagnosed in Europe in early 2000: The EUROCARE-5 population-based study. *Eur J Cancer* 51:2130–2143
4. Lyhne NM, Christensen A, Alanin MC, Bruun MT, Jung TH, Bruhn MA, Jespersen JB, Kristensen CA, Andersen E, Godballe C, Buchwald C, Bundgaard T, Johansen J, Lambertsen K, Primdahl H, Toustrup K, Sørensen JA, Overgaard J, Grau C (2013) Waiting times for diagnosis and treatment of head and neck cancer in Denmark in 2010 compared to 1992 and 2002. *Eur J Cancer* 49(7):1627–1633
5. http://www.cancercentrum.se/globalassets/cancerdiagnoser/huvud-och-hals/vardprogram/natvp_huvud-hals_v1.0_150825_final.pdf. Accessed 25 Aug 2015