P1209 INCIDENCE, TREATMENT AND OUTCOME OF BREAST IMPLANT-ASSOCIATED ANAPLASTIC LARGE CELL LYMPHOMA: A POPULATION-BASED COHORT STUDY IN THE NETHERLANDS

**Topic:** 19. Aggressive Non-Hodgkin lymphoma - Clinical

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**Background:**

Breast implant-associated anaplastic large cell lymphoma (BIA-ALCL) is a rare peripheral T-cell lymphoma (PTCL) that develops in the fluid of the seroma cavity or the pericapsular fibrotic tissue surrounding a breast implant. The first case of BIA-ALCL was reported in 1997. According to the Food and Drug Administration (FDA), 733 unique cases of BIA-ALCL have been reported worldwide as of 2020. Involvement of locoregional lymph nodes or other organs outside of the breast occurs infrequently. The management of patients with limited stage disease BIA-ALCL is primarily surgical, but the optimal treatment of patients with advanced stage disease is largely unknown.

**Aims:**

The aim of our study was to describe the incidence, treatment and survival of all reported BIA-ALCL cases in the Netherlands.

**Methods:** All patients diagnosed with BIA-ALCL since 1997 were identified in in the Netherlands Cancer Registry (NCR) with survival follow-up through February 1\(^{st}\), 2021. Baseline characteristics, a history of cancer, time between breast cancer (due to possible breast reconstruction with an implant following cancer surgery) and BIA-ALCL, treatment modality, best response to treatment and survival outcomes were collected. Overall survival (OS) was defined as the time from BIA-ALCL diagnosis to all-cause-death.

**Results:**

Between 1997 and 2020, a total of 42 patients have been diagnosed with BIA-ALCL in the Netherlands. The incidence was constant with 1 to 2 patients per 2 years until 2017. From 2018 onwards, the number of patients increased fourfold and 24 patients have been diagnosed with BIA-ALCL since then. The median age of patients was 51 years (range 28-87 years). The majority of patients were diagnosed with stage I disease (76%; n=32). Stage II was seen in 17% (n=7) and stage III/IV in 7% (n=3) of patients. Of the 3 patients with advanced stage disease, one patient had leptomeningeal involvement, one had involvement of the manubrium sterni and one had liver involvement. Fourteen patients (31%) had a prior diagnosis of breast cancer. The median time between the breast cancer diagnosis and BIA-ALCL was 13,3 years (range 6,7-31,8). Treatment for all BIA-ALCL patients consisted of surgery (55%, n=23), chemotherapy (14%, n=6); chemotherapy and radiotherapy (7%, n=3); chemotherapy and autologous stem cell transplant (7%, n=3); surgery and chemotherapy (5%, n=2), surgery, chemotherapy and radiotherapy (2%, n=1) or radiotherapy (2%, n=1). For 3 patients (7%), the treatment was watchful waiting. Treatment modality according to...
disease stage is presented in Table 1. Of the 15 patients who received chemotherapy, 10 patients received CHOP with number of cycles varying between 3 and 8, 1 patient received 4 cycles of CHOP followed by 4 cycles of CEOP, 1 patient received 6 cycles of CHOEP, 1 patient received 3 cycles of CHOEP followed by 3 cycles of CEOP, and for 2 patients the exact regimen was unknown. Overall, with a median follow-up of 2.9 years (range 0.3-24.2), three patients had died and the 3-years OS was 98%.

| Image: Table 1. Treatment modality according to disease stage |
|-------------------------------------------------------------|
| Stage I | Stage II | Stage III/IV |
|---------|----------|-------------|
| Surgery only | 23 | 0 | 0 |
| Surgery combined with chemotherapy | 0 | 1 | 1 |
| Surgery, chemotherapy and radiotherapy combined | 0 | 1 | 0 |
| Chemotherapy only | 2 | 4 | 0 |
| Chemotherapy and radiotherapy | 3 | 0 | 0 |
| Chemotherapy followed by ASCT | 0 | 1 | 2 |
| Radiotherapy only | 1 | 0 | 0 |
| Watchful waiting | 3 | 0 | 0 |

**Summary/Conclusion:**

In the Netherlands, 42 cases of BIA-ALCL have been reported since 1997, with 24% of the patients diagnosed with stage II-IV. Although the incidence of breast cancer, and thereby the number of breast reconstructions, is on the rise, it is likely that the rapid increase in the number of BIA-ALCL cases since 2018 is due to increased awareness of this disease. The treatment of BIA-ALCL has been heterogeneous and there is an urgent need for uniformity, making evaluation of different strategies possible. Nevertheless, the prognosis is excellent with a 3-year OS of 98%.