**Supplementary Tables & Figures**

**Supplementary Table 1.** Among the 48 articles that were assessed full text, below are the reasons for the exclusion of 39 articles

|  |  |  |
| --- | --- | --- |
| **Study** | **Reference** | **Reason for exclusion** |
| **FROM PREVIOUS META-ANALYSIS OF THOMPSON OR ZENG**1,2 | | |
| Clayman, 2005 | 3 | Node-negative in 183/210 (87%).  Univariate and multivariate analysis does not report HR for DSD separately for node-negative cSCC |
| Friedman, 1985 | 4 | 61/63 with clinically localized cSCC (97%), 2/63 with regional metastasis  5 patients died of cSCC (2 with regional metastasis at first presentation). |
| Goepfert, 1984 | 5 | DSD not reported |
| Kyrgidis 2010 | 6 | DSD not reported |
| Schmidt, 2015 | 7 | All had nodal metastatic cSCC |
| **FROM NEW SEARCH** | | |
| ADAMS, 2020 | https://doi.org/10.1111/ajd.13290 | DSD NOT REPORTED |
| AMIT, 2020 | https://doi.org/10.1016/j.ejca.2020.11.019 | NODE NEGATIVE IN 88.8% |
| BARRIERA-SILVESTRINI, 2021 | https://doi.org/10.1002/lary.28978 | IN REFERENCE TO ARTICLE |
| BERNAL MARTINEZ, 2020 | https://doi.org/10.1016/j.ad.2018.09.025 | RISK FACTORS NOT ASSESSED FOR DSD |
| BOWE, 2020 | https://doi.org/10.1016/j.bjoms.2020.08.028 | RISK FACTORS OF INTEREST NOT ASSESSED |
| CANUETO, 2020 | https://doi.org/10.1111/jdv.16001 | DSD NOT REPORTED. IT WAS REPORTED AS PART OF 'DISEASE-SPECIFIC POOR OUTCOMES' |
| CONDE-FERREIROS, 2020 | https://doi.org/10.1016/j.jaad.2020.03.088 | SALAMANCA HOSPITAL., 2005-2016. INCLUDED T3 CASES (MULTIPLE BASELINE RISK FACTORS: >4 DIAMETER, OR THICKNESS>6 MM OR BEYOND SUBCUTANEOUS FAT, OR PNI OR MNOR BONE EROSION). FROM POOL OF PATIENTS STUDIED IN CONDE-FERREIROS, JAAD AUGUST,2020 (MULTICENTER, INCLUDED IPNI CASES) |
| DONG, 2020 | https://doi.org/10.1016/j.jaad.2020.03.027 | DSD NOT REPORTED |
| HAUG, 2020 | https://doi.org/10.1016/j.jid.2020.01.035 | DSD NOT REPORTED |
| JAMBUSARIA-PAHLAJANI, 2020 | https://doi.org/10.1016/j.jid.2020.05.094 | COMMENTARY |
| JOHNSTON, 2020 | https://doi.org/10.1016/j.jaad.2020.08.089 | DSD DID NOT OCCUR |
| KNUUTILA, 2020 | https://doi.org/10.2340/00015555-3628 | DSD NOT REPORTED |
| KORHONEN, 2020 | https://doi.org/10.2340/00015555-3479 | DSD NOT REPORTED |
| LEDERHANDLER, 2020 | https://doi.org/10.1016/j.jaad.2019.12.007 | SURGICAL CHALLENGE CASE |
| LEUS, 2021 | https://doi.org/10.1001/jamadermatol.2020.4828 | DSD NOT REPORTED. IT WAS REPORTEED AS PART OF PROGRESSION OF DISEASE WITH LR AND NM |
| MO, 2020 | https://doi.org/10.1016/j.jaad.2020.09.035 | DSD NOT REPORTED |
| MULL, 2020 | https://doi.org/10.1097/dss.0000000000002336 | DSD DID NOT OCCUR |
| PUEBLA-TORNERO, 2021 | https://doi.org/10.1016/j.jaad.2020.12.020 | DSD NOT REPORTED. IT WAS REPORTED AS PART OF 'DISEASE-SPECIFIC POOR OUTCOMES' |
| REYNOLDS, 2020 | https://doi.org/10.1111/bjd.19693 | RISK FACTORS NOT ASSESSED |
| RITTER, 2020 | https://doi.org/10.1002/hed.26546 | NO HR REPORTED. METASTATIC TOGETHER WITH LOCALIZED. |
| RODRIGUEZ, 2020 | https://doi.org/10.1016/j.jaad.2020.08.083 | DSD NOT REPORTED |
| RUIZ, 2020 | https://doi.org/10.1016/j.jaad.2019.07.048 | RISK FACTORS OF INTEREST MATCHED |
| SAITO, 2020 | https://doi.org/10.1007/s10147-020-01830-7 | RISK FACTORS OF INTEREST NOT ASSESSED FOR DSD |
| SAYAN, 2020 | https://doi.org/10.1016/j.bjoms.2020.04.029 | DSD NOT REPORTED |
| SOOD, 2020 | https://doi.org/10.12968/jowc.2020.29.10.556 | RISK FACTORS OF INTEREST NOT ASSESSED |
| STEVENSON, 2020 | https://doi.org/10.1001/jamadermatol.2020.1984 | RISK FACTORS OF INTEREST NOT ASSESSED |
| SVENSSON, 2020 | https://doi.org/10.2340/00015555-3532 | DSD NOT REPORTED |
| TOPPI, 2020 | https://doi.org/10.1111/ans.16095 | DSD NOT REPORTED |
| TROSMAN, 2021 | https://doi.org/10.1002/lary.28564 | NODAL METASTASIS IN 48% AT STUDY PRESENTATION |
| UPTON, 2021 | https://doi.org/10.1002/lary.28982 | RESPONSE TO LETTER |
| UPTON, 2021 | https://doi.org/10.1002/lary.28633 | DSD NOT REPORTED |
| XIONG, 2020 | https://doi.org/10.1016/j.jaad.2019.12.049 | DSD NOT REPORTED. IT WAS REPORTED TOGETHER WITH RECURRENCE AS OVERALL POOR OUTCOMES |
| YUNG, 2021 | https://doi.org/10.1245/s10434-020-09431-4 | VERMILION LIP |
| ZENG, 2020 | https://doi.org/10.1371/journal.pone.0239586 | META-ANALYSIS |

cSCCHN: cSCC of the head and neck, m: months, P: prospective, R: retrospective, y: years

**Supplementary Table 2.** Newcastle-Ottawa Scale Scoring of included cohort studiesa

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Study** | **Study Type** | **Selection** | **Comparability** | **Exposure or Outcome** | **Assessment of quality** |
| Brinkman, 20158 | Cohort of consecutive cSCC | \*\*\*\* |  | \*\*\* | Medium (NOS: 7) |
| Conde-Ferreiros, 20209 | Cohort of cSCC with iPNI | \*\*\* | \*\* | \*\* | Medium (NOS: 7) |
| Eigentler, 201710 | Cohort of cSCC | \*\*\*\* | \*\* | \*\* | High (NOS: 8) |
| Griffiths, 200211 | Cohort of consecutive cSCC | \*\*\* |  | \*\*\* | Medium (NOS: 6) |
| Karia, 201412 | Cohort of consecutive cSCC | \*\*\*\* | \*\* | \*\*\* | High (NOS: 9) |
| Ruiz, 201913 | Cohort of cSCC with histologic positive margins treated with salvage irradiation | \*\*\* |  | \*\* | Medium (NOS: 5) |
| Schmults, 201314 | Cohort of cSCC | \*\*\*\* | \*\* | \*\*\* | High (NOS: 9) |
| Tam, 202015 | Cohort of cSCC | \*\*\*\* | \*\* | \*\* | High (NOS: 8) |
| Tschetter, 202016 | Cohort of cSCC | \*\*\*\* | \*\* | \*\*\* | High (NOS: 9) |

a NOS scores may range from 0 to 9. Possible scores are 0 to 4 asterisks for selection. 0 to 2 asterisks for comparability, and 0 to 3 asterisks for exposure or outcome. The total scores may range from zero to nine points, with a score of lower than five indicating poor quality, five to seven indicating medium quality, and higher than seven representing high quality.

**Supplementary Figure 1.** Forest plots of the association of risk factors for DSD in included studies reporting clear margins after surgery in all cases



**References for Supplementary material**

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