|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 1** | | | | |
| **Year** | **Reference (Country)** | **Objective** | **Methods/Intervention** | **Results/Conclusions** |
| ***Referral and Consultation*** | | | | |
| 2007 | Ferrandiz L et al.13 (Spain) | To evaluate a store-and-forward teledermatology system for the presurgical management of NMSC patients. | Photos and clinical info for 134 patients with a suspected NMSC or rapidly growing vascular tumor were sent to the dermatologic surgeon for teleconsultation prior to surgery. | Teleconsultation reduced mean waiting intervals (26 vs 61 days, *p* < 0.001) and surgery cancellation rates (3% vs 9%, *p* <0.005) with reasonable accuracy of telediagnoses (k = 0.86, 95% CI 0.83-0.89) and agreement rate between the planned and performed surgical technique (k = 0.75, 95% CI 0.71-0.79). |
| 2008 | Hsiao JL et al.14 (USA) | To examine the time intervals in which skin cancer patients referred conventionally or by store-and-forward teledermatology were evaluated and treated. | A chart review of 169 patients treated for skin cancer in a VA dermatologic surgery clinic was performed comparing those referred by conventional vs teledermatology referral over 4.5 years. | Teledermatology consults had lower mean time intervals for initial consult completion (4 vs 48 days, *p* < 0.0001), biopsy (38 vs 57 days, *p* < 0.034), and surgery (104 vs 125 days, *p =* 0.006) as well as fewer clinic visits before surgery (*p* = 0.02). |
| ***Telepathology*** | | | | |
| 2002 | Nehal KS et al.15 (USA) | To assess the diagnostic accuracy and utility of a dynamic telepathology system in Mohs surgery. | Using a dynamic telepathology system, a dermatopathologist reviewed 50 fixed-tissue slides of BCCs and SCCs, 40 frozen section slides from Mohs surgery, and 20 frozen section slides for intraoperative Mohs consultation. All 110 slides were then randomly reviewed by light microscopy by the same dermatopathologist. | There was complete agreement between telepathology and conventional light microscopy diagnoses, demonstrating the accuracy and utility of dynamic telepathology for remote diagnosis and consultation during Mohs surgery. |
| 2004 | Chandra S et al.16 (Australia) | To obtain images of challenging Mohs slides to transmit to a dermatopathologist for expert opinion. | In 3 cases of Mohs surgery, a digital camera was placed on one eyepiece of the microscope to capture an image of a particular area of concern, which was emailed to a dermatopathologist for immediate advice. | Telepathology enabled the surgeon to intraoperatively determine with the help of the pathologist that suspicious clear cells were ballooned keratinocytes rather than atypical melanocytes, that a nerve did not contain invading SCC, and that pigment laden cells represented a benign nevus without atypia. |
| 2005 | Sukal SA et al.17 (USA) | To evaluate the use of telepathology for intraoperative consultations on difficult frozen sections during Mohs surgery. | The MedMicro dynamic telepathology system was used for 61 intraoperative consultations with a dermatopathologist for questions arising on frozen sections during Mohs surgery. | Dynamic telepathology consultation was useful to help distinguish BCC from a benign simulant, determine tumor histology, and distinguish inflammation from residual tumor. |
| 2007 | McKenna JK et al.18 (USA) | To determine whether dynamic telepathology can be accomplished by using readily available consumer products and software. | The Mohs surgeon consulted the dermatopathologist with various questions on 20 frozen section slides using iChat AV videoconferencing software. | The video images were adequate for pathologic interpretation with complete agreement on question answers for all 20 Mohs frozen section consultations |
| 2008 | Lambert DR et al.19 (USA) | To present a case report of intraoperative histopathology consultation during Mohs surgery. | A patient referred for Mohs surgery for SCCIS was found to have BCC on the first stage and SCCIS on the second stage, both of which were confirmed intraoperatively via telepathology by a remote dermatopathologist. | Telepathology provides time-efficient consultation during Mohs surgery via electronic transmission of path images, expediting diagnosis confirmation and treatment decisions. |
| ***Intraoperative Uses*** | | | | |
| 2014 | Hamann D et al.20 (USA) | To explore the applications of smartglasses for intraoperative consultation and defect triage. | Smartglasses were used to coordinate care and share case-load for Mohs defect reconstruction between surgeons in the Dept of Dermatology and ENT. | Smartglasses facilitated care coordination by enabling transmission of photos and video recordings taken by the Mohs surgeon to the ENT surgeon as well as allowing live videoconferencing intraoperatively during Mohs surgery. |
| 2014 | Niamtu J21 (USA) | To assess the uses of Google Glass in a dermatologic cosmetic surgery practice. | Google Glass was used for 8 weeks for both pre- and intraoperative applications. | Google Glass enabled seamless photography and videography intraoperatively, documentation of consults, and live surgery observation for teaching purposes. |
| ***Postoperative Care*** | | | | |
| 2018 | Hawkins et al.22 (USA) | To develop and evaluate perioperative resources for Mohs surgery patients including video modules and postoperative text messaging. | Pre-operative anxiety and knowledge of Mohs surgery and post-operative care were evaluated among 90 patients randomized to videos with text messages, videos only, text messages only, or control. | The Mohs video reduced patient anxiety by 19% (*p* = 0.00062). There was no difference in knowledge after the wound care video. Patients prefer text message-based wound care instructions over pamphlets but do not find them more helpful. |
| 2017 | Chee SN et al.23 (Australia) | To identify the benefits, barriers, and patient attitudes towards smartphone monitoring post-laser resurfacing. | A web-based survey was distributed to 125 patients who had undergone laser resurfacing, 59 of whom had used the smartphone monitoring service, which entailed emailing photos of themselves to the dermatologist. | The entire teledermatology cohort felt that the smartphone monitoring service was a positive initiative for post-laser patients. Patients undergoing smartphone monitoring required fewer face-to-face consultations. |