Introduction

Excel V™ was first developed for treating a variety of vascular lesions, but in Asian countries, it has been applied more for pigmentary problems. Among pigmentary problems in Asians, melasma is the biggest cosmetic concern. My experience has demonstrated that excel V alone and in combination with other lasers is a very effective tool to treat melasma.

Melasma is common in middle-aged Asian women, and it appears symmetrically on sun exposed areas such as cheeks, forehead, upper lip, nose, and chin. The etiology of melasma is very complex. Aging, hormone, sun-exposure, vascular proliferation, inflammation are involved in melasma. Although conventional treatments such as topical hypo-pigmenting agents (hydroquinone, azelaic acid, and tretinoin), laser therapy, and chemical peels have been tried for melasma, a therapeutic standard has not yet been established.

Method

The 532 nm KTP in excel V is highly absorbed by both oxyhemoglobin and melanin, and this makes it an excellent choice for treating melasma. Recently, studies have highlighted that the removal of dermal vascular structure is necessary for melasma treatment. At longer pulse durations, 532nm works well for treating the vascular components of melasma and the shorter pulse durations are effective for treating pigmentation.

The second excel V wavelength is 1064 nm Nd:YAG. 1064 has a relatively lower absorption in melanin and oxyhemoglobin compared to 532, but a much higher relative affinity to water. This makes it ideal for gently heating the deep dermal area, and is the reason why 1064 is used for skin revitalization. Skin aging is also a contributor to melasma, and 1064 provides skin revitalization in a no downtime procedure with high patient satisfaction. Combining 532 and 1064 to target the vascular, pigment and skin aging components of melasma is an ideal method for treating melasma.

Protocol

The treatment protocol I employ for melasma with excel V is as follows:

1. **532 nm**: 3-10 ms, 7-8 J/cm², 3-8 mm spot size, 5-10°C.
2. **532 nm (Melasma Mode)**: 20-30 ms, 4-5 J/cm², 10 mm spot size, 20°C; repeat at least 6 times every 4 weeks.

Combine Step 2 (Melasma mode) and Step 3 to treat younger patients with melasma.

3. **532 nm ‘Melasma mode’** of excel V combined with laser toning every 2 weeks is recommended when the patient is young. Laser toning is performed with a 1064 nm Q-switched Nd-YAG laser utilizing 1-1.5 J/cm², 7-10 mm spot size with a multi-pass technique delivering up to 3,000 shots to the entire face.

4. **Laser Genesis™** of excel V combined with laser toning at the same time every 2 weeks is recommended for patients who are older with aged skin that would benefit from additional skin revitalization. Laser Genesis utilizes excel V’s 1064 nm wavelength delivered through a custom handpiece at 300
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Results
Case 1 utilizes treatment parameters that mimic IPL but performed by excel V—532 nm, 10 ms, 8 J/cm², 10 mm spot size. excel V provides fast and dramatic results with fewer treatment sessions than IPL. Since PIH is a possible side effect, we recommend this set of parameters for young and relatively fair skin.

Case 2 of periorbital, recalcitrant sunglass melasma was treated with 532 nm, 20 ms, 4 J/cm², 10 mm for 6 total treatments performed every 4 weeks. The 532 nm treatments were combined with 1064 nm laser toning with a standard QS device—8 mm, 10 ms, 1.2 J/cm²; 12 total treatments were performed every 2 weeks.

These parameters are very safe and effective for all skin types.

Discussion
In conclusion, excel V is a very safe and effective treatment option for melasma. excel V’s 532 nm provides the capability to target the underlying vascular component and pigment component of melasma, while the 1064 nm Laser Genesis procedure provides overall skin revitalization. Variable combinations are possible with excel V making excel V a powerful and versatile tool for the successful management of melasma.

Skin revitalization with Laser Genesis enhances the effect of laser toning. In my opinion, combinations with melasma mode of excel V and Laser Genesis may be a good protocol for melasma treatment. The Laser Genesis procedure is a significant bonus of excel V that is a great ‘finishing’ procedure with a very high patient satisfaction.