RECOMMENDATIONS

- Further studies with a larger group of patients and longer follow up would be useful to determine the optimal treatment approach of fractional ablative CO_2 laser treatment in darker phototypes.
- An objective scale for evaluation of photoaging improvement, need to be set.
- Combination of Fractional CO_2 laser with other modalities is recommended in treatment of photoaging.

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APPENDIX

Laser devices technical specifications and parameters used.

Device	*Study and skin types*	*Delivery Method*	*Pulse Duration*	Energy output (joul/Watts)	Spot size	Parameters used in study
ATL 250 CO2		scanned	0.1ms-10ms	25W max	≤0.5mm	4-6 W,3-4 ms, PPI 4
Deka SmartXide DOT	Tierney and Hanke [269] (I-III)	Scanned	0.2ms-2ms	30W max	120µm	30W and 500 µm pitch for 1,000 to 1,500 µs
Fraxel repair	Hunzeker et al. [272]	IOTS* continuous motion delivery system	0.15-3ms	Upto 70mJ/MTZ	Less than140µm spot size	40 mJ to 70 mJ and coverage density of 30% to 60
	Chan et al. [270] (III-VI)					30– 70mJ coverage 30% - 45% and 4 passes
Ultrapulse encore (Active Fx)	Neaman et al,[252] (I-IV +oneV)	scanned	Less than 1ms	1-225mJ	1.3mm	70-150mJ, density3-6, frequency 75 - 500Hz, 2-3 passes
	Kee Lee Tan et al [271] (IV-V)					60 mJ energy and density 1(60% coverage)

* Intelligent optical tracking system

الملخص العربى

- تعد شيخوخة الجلد ظاهرة بيولوجية معقدة حيث يتأثر الجلد بنوعين من الشيخوخة مختلفتان تماماً عن بعضهما البعض لكنهما يحدثان معا في وقت واحد .النوع الأول هو الشيخوخة الداخلية والنوع الثانى هو الشيخوخة الخارجية وهى الناتجة عن التعرض للعوامل الخارجية وعلى رأسها الآشعة الفوق بنفسجية التى تصدرها الشمس(التشيخ الضوئي).ويمكن التفريق بوضوح بين النوعين اكلينيكياً وهيستولوجياً.
- يظهر التشيخ الضوئي على الجلد في صور عديدة تشمل الخشونة، التجاعيد، اللون الشاحب ، وتوسع الشعريات، والتصبغات غير نظامية،ومجموعة متنوعة من الاورام الحميدة والخبيثة على عكس الجلد المتأثر بالتشيخ الداخلى فقط ، و الذي يكون فيه الجلد ناعما ولا يبدو عليه هذا المظهر المتهدل.
- المران الأدمى هو أهم مايميز التشيخ الضوئي هيستولوجياً.
- الحماية الفسيولوجية للجلد من آشعة الشمس تتناسب طردياً مع سمك الطبقة القرنية من الجلد ودرجة تصبغ الجلد.
- بعض المركبات الطبيعية تم استخلاصها من النباتات وخلاصاتها لعلاج اعراض التشيخ الضوئي لكنها لاتزال تحتاج الى المزيد من الدراسة.
- الالمام بتقسيم فيتزباتريك لنوع الجلد حسب استجابته لضوء الشمس هام جدا في اثناء فحص حالات التشيخ الضوئي لأنه على أساسه يتحدد نوع العلاج وحجم مخاطره بالنسبة لكل مريض.
- التدخل الطبي في حالات التشيخ الضوئي يمكن تقسيمه الى ثلاثة مراحل:
- مرحلة وقائية من الدرجة الاولى(تقلل من حدوث التشيخ الضوئي):وتشمل الوقاية من اشعة الشمس بكافة صوره.
- مرحلة علاجية / وقائية من الدرجة الثانية (تقلل من آثار التشيخ الضوئي):وتشمل مشتقات فيتامين أ الموضعية.
- مرحلة علاجية / وقائية من الدرجة الثالثة(تخفف حدة الآثار الناتجة عن التشيخ الداخلي والتشيخ الضوئي):وتشمل علاجات أمثال :سم الوشيقية (البوتيولينيم) ،الملئ بالأنسجة الرخوة،التقشير الكيميائي، وتقشير الجلد بالليزر وغيرها.
- شعاع الليزر الكربونى (ثانى أكسيد الكربون) يقع ضمن طيف الاشعة تحت الحمراء وطوله الموجى هو ١٠٦٠٠ نانومتر.
- يستخدم الليزر الكربونى المجزأ بشكل واسع في تجميل الجلد خاصة في علاج الندبات الناتجة عن حب الشباب والتجاعيد لكن استخداماته في الامراض الجلدية بشكل عام لاتزال تحتاج الى المزيد من البحث.
- المضاعفات الناتجة عن تقشير الجلد بالليزر المجزأ يمكن تقسيمها وفق شدتها إلى بسيط، معتدل، شديد.
- تعد مشاكل التصبغ العرض الجانبي اللافت للاهتمام في علاج ذوى البشرات الداكنة.
- يجب على الطبيب المعالج والمريض اتباع المبادئ التوجيهية الخاصة باختيار المريض المناسب،والتقييم السابق للعلاج والرعاية ما بعد العلاج لتجنب أي مضاعفات قد تنشأ عن استخدام الليزر الكربونى المجزأ.
- في الدراسة المقدمة كانت عينة الدراسة ٥٠ مريضاً يعانون من التشيخ الضوئي .وكان كلهم من الاناث واللون الضوئي لبشراتهم مابين II و VI وفقا لتقسيم فيتزباتريك. تم اختيار المرضى من العيادة الخارجية لقسم الجلدية والتناسلية بالمستشفى الجامعى بكلية الطب جامعة الاسكندرية.كانت أعمار المرضى مابين ٢٩ و٤٦وكان متوسط عمر المرضى ٤٦.٤±٨.٧٩ .كان ٣٦% من المرضى لديهم وظائف ثابتة و٥٢% لايعملون.
- تم عمل ٣جلسات تقشير لكل مريض باستخدام جهاز الليزر الكربونى المجزأ(ATL-250) وكانت القوة المستخدمة مابين ٤-٦ والوقت مابين ٣-٤ وكثافة التجزؤ مابين٣-٤.
- بملاحظة درجة التحسن الحادثة بعد الجلسات الثلاثة ، فانه علينا اعادة النظر في استخدام الليزر الكربونى المجزأ في علاج التشيخ الضوئي في ذوي البشرة الضوئية من II-IV مقارنة بأنواع العلاج الأخرى.
- وبملاحظة المضاعفات الحادثة للمرضى بعد الجلسات ،يتضح أن استخدام الليزر الكربونى المجزأ آمن في ذوي البشرة الضوئية من II-IV.
- المزيد من الدراسات باستخدام مجموعات أكبر من المرضى ولفترات متابعة أطول ستساعد بشكل أكبر لوضع رؤية أوضح لعلاج التشيخ الضوئي في ذوي البشرة الضوئية من II-IV.
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إقرار

أقر أنه لا يوجد أى جزء من هذا العمل قد سبق تقديمه لنيل درجة أخرى فى هذا المعهد أو أى جامعة أو مؤسسة تعليمية أخرى.

اسم الطالب:

توقيعه:

جامعة الإسكندرية
كلية الطب
قسم الأمراض الجلدية والتناسلية وطب الذكورة

تقييم استخدام الليزر الكربوني المتجزئ في علاج تلف الجلد الشمسي

رسالة مقدمة

لقسم الأمراض الجلدية والتناسلية وطب الذكورة ـ كلية الطب ـ جامعة الإسكندرية
ضمن متطلبات درجة

الماجستير

فى

الأمراض الجلدية والتناسلية وطب الذكورة

مـــن
سلمى حسن زكي محمد مسعود
بكالوريوس الطب والجراحة ، ٢٠٠٧
كلية الطب، جامعة الإسكندرية

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التاريخ / /

لجنة الإشراف **موافقون**

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مدرس الأمراض الجلدية والتناسلية وطب الذكورة
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